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 – RWS Type I Landfill
Petersburg, Indiana
ATC Project No. 170LF01279

Dear Mr. Heger:

ATC Group Services LLC (ATC) has prepared this 2022 CCR Annual Groundwater Monitoring and Corrective Action Report for the Restricted Waste Site (RWS) Type I Landfill 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 Landfill and summarizes 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 unit was operating under the Assessment Monitoring Program 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 their associated groundwater protection standards (GWPS) pursuant to § 257.95(g)[1]: The SSLs are as follows:

Arsenic

MW-3, MW-10[2]

Lithium

MW-2R, MW-3, MW-4C, MW-10, MW-13

Molybdenum

MW-3

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).

The assessment of corrective measures was initiated for the Petersburg Generating Station CCR regulated unit on April 15, 2019 in response to SSLs of Appendix IV constituents exceeding GWPS.

[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 arsenic in monitoring well MW-10. 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 – RWS Type I Landfill.

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 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 in order 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 on-site N&E monitoring equipment[3], and 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 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 in accordance with 40

[3] N&E monitoring well MW-15B was installed in 2022. Well locations are depicted on Figure 2.

CFR 257.93(e). Subsequent SSLs 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)[4].

- 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.

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.

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. 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 system at the Petersburg Landfill consists of eight (8) monitoring wells: one (1) upgradient monitoring well MW-1, and seven (7) downgradient monitoring wells MW-2R, MW-3, MW-4C, MW-10, MW-11, MW-12, and MW-13.

In addition to the CCR landfill groundwater monitoring system, three (3) N&E wells (MW-14, MW-15, and MW-16) were installed in 2019. These wells were installed to characterize the nature and extent of impacted groundwater and to support the CMA.

Since there is a hydraulic connection between the landfill and the Ash Pond System, monitoring wells MW-20A, MW-20I, and MW-20B were installed at the facility boundary in April 2020 to satisfy § 257.95(g)(1)(iii) for the Landfill and the Ash Pond system.

[4] Sampling results for the November 2021 and May 2022 semi-annual assessment monitoring events are summarized in Table 3 and Table 6, respectively. Please refer to Section § 257.90(e)(4) on Page 9 of this report regarding SSL evaluation results.

Eight (8) stratigraphic soil borings (STR-1, STR-2, STR-3, STR-4, STR-5, STR-6, STR-7, and STR-8) were installed at the AESI's Petersburg Generating Station Landfill between June 22 and August 6, 2021. These soil borings were installed inside the current landfill boundary to obtain geologic information regarding the subsurface materials around the landfill perimeter.

Based on the findings of the stratigraphic soil borings STR-1 through STR-8, 17 soil borings were advanced in locations proximal to the STR- borings between October 11 and November 1, 2021. Fifteen of the 17 borings were ultimately completed as monitoring wells (MW-30I, MW-30D2, MW-31D2, MW-32I, MW-32D1, MW-32D2, MW-33I, MW-33D2, MW-34A, MW-34D1, MW-34SS, MW-34D2, MW-35D1, MW-35SS, and MW-35D2). The wells were sampled in November and December 2021. MW-30I and MW-32I were dry during the November-December sampling event. These results were not finalized by the end of 2021 for inclusion in the associated 2021 Annual Report.

Monitoring wells MW-30D2, MW-31D2, MW-32D1, MW-32D2, MW-33I, MW-33D2, MW-34A, MW-34D1, MW-34SS, MW-34D2, MW-35D1, MW-35SS, and MW-35D2 were sampled in February 2022. MW-30I and MW-32I were dry during the sampling event.

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 initiated in 2022 as follows.

- AESI collected groundwater samples from thirteen (13) N&E monitoring wells in February 2022;

- One monitoring well (MW-15B) was installed at the facility in September 2022 in order to enhance the vertical extent of the existing landfill N&E network.

- As the landfill CCR monitoring network is also utilized for state regulatory compliance, AESI submitted a work plan to the Indiana Department of Environmental Management (IDEM) in September 2022 for the installation of new background wells MW-1A and MW-12A. The wells would serve to supplement existing well MW-1. IDEM subsequently approved the installation of the wells in November 2022, but would not automatically approve the incorporation of the resulting groundwater data into the background database. Several rounds of groundwater data are to be collected from the planned wells, with an associated report discussing the groundwater results. Based on IDEM's review of the data, IDEM would make a determination on the appropriateness of the wells to supplement existing background well MW-1.

The location of the CCR monitoring well network and N&E wells are depicted on Figure 2. No wells were abandoned during the 2022 reporting period.

§ 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, or N&E.
Groundwater elevation data is provided in Table 2.

Assessment Monitoring and N&E well (MW-14, MW-15, MW-16, MW-20B, MW-20I, MW-20A, MW-22, MW-23, MW-24, MW-30D2, MW-31D2, MW-32D1, MW-32D2, MW-33I, MW-33D2, MW-34A, MW-34D1, MW-34SS, MW-34D2, MW-35D1, MW-35SS, and MW-35D2) groundwater analytical results for the November 2021 semi-annual 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.

N&E sampling results for the February 2022 sampling event (MW-30D2, MW-31D2, MW-32D1, MW-32D2, MW-33I, MW-33D2, MW-34A, MW-34D1, MW-34SS, MW-34D2, MW-35D1, MW-35SS, and MW-35D2) are summarized in Table 4. It should be noted that the February 2022 analytical results from MW-32D2 and MW-35SS are not considered representative of groundwater conditions due to a significant amount of sediment entrained within each sample. Following receipt of the analytical results these monitoring wells were redeveloped in March 2022 and subsequently resampled in April and May 2022. The analytical results from the subsequent sampling events for MW-32D2 and MW-35SS confirmed that representative groundwater conditions are an order of magnitude less than those measured in February 2022 and consistent with the prior sampling event in December 2021. N&E sampling results for the April 2022 re-sampling of MW-32D2 and MW-35SS are provided in Table 5.

Assessment Monitoring and N&E well (MW-14, MW-15, MW-16, MW-20B, MW-20I, MW-20A, MW-24, MW-32D2, MW-32I, MW-33I, MW-33D2, MW-35D2, MW-35SS, MW-31D2, MW-32D1, MW-32D2, MW-33I, MW-33D2, MW-34A, MW-34D1, MW-34SS, MW-34D2, MW-35D1, MW-35SS, and MW-35D2) groundwater analytical results for the May 2022 sampling event are summarized in Table 6. During the May 2022 event five monitoring wells (MW-32D2, MW-33I, MW-33D2, MW-35SS, MW-35D2) were sampled on two separate occasions. The initial sampling utilized low-flow purging and sampling techniques, while the follow up sampling utilized hydrasleeve equipment. Groundwater results for the November 2022 combined semi-annual assessment monitoring sampling event and N&E event were not finalized in 2022 and therefore are not included with this submittal.

STATISTICAL EVALUATION PROCEDURES

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

This plan is based on the use of the commercial software DUMPStat[5] (Version 3.0). The DUMPStat program uses statistical tests, procedures, and testing sequences described in Statistical Methods for

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

Groundwater Monitoring[6] (Gibbons et. al., 2009). The statistical methods for the PGS CCR RWS I Landfill monitoring system are designed to be consistent with ASTM International Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs *at Waste Disposal Facilities* (D6312-17) along with federal and state guidance, and are also consistent with Indiana's regulations addressing statistical evaluation of groundwater at solid waste landfills.

The CCR landfill groundwater monitoring system at the Petersburg Station consists of eight (8) monitoring wells: one (1) upgradient monitoring well MW-1, and seven (7) downgradient monitoring wells MW-2R, MW-3, MW-4C, MW-10, MW-11, MW-12, and MW-13. Monitoring wells MW-1, MW-2, and MW-3 were installed in 1986. Monitoring well MW-2 was replaced by monitoring well MW-2R in 2017. Monitoring well MW-4C was installed in 1992. Due to requirements contained in the Federal CCR Rule, monitoring wells MW-10 through MW-13 were installed in 2017 for the purpose of providing additional coverage around the perimeter of the (once planned) landfill expansion footprint. It is ATC's current understanding that AESI has subsequently decided not to proceed with the expansion.

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 well, and from September 2016 through the respective November 2021 and May 2022 semi-annual events for the downgradient wells. The minimum background sample size was set to eight (8). Under this plan, if a detection monitoring result in a compliance well exceeds a statistical limit, a statistically significant increase, or SSI, will be declared.

Semi-annual assessment monitoring sampling events were conducted in 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 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).

Background Data

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

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

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

Included in this attachment are summaries of the historical data for the Appendix IV statistically evaluated parameters for the PGS landfill. Historical data from groundwater sampling events were imported into the DUMPStat database. Attachment C Table C-1 contains groundwater quality data collected from the background monitoring well MW-1. Prediction limits based on groundwater quality reported from the background monitoring wells were calculated for each parameter and are presented in Attachment C Table 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[7] 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 MW-2R, MW-3, MW-4C, MW-10, MW-11, MW-12, and MW-13 will be statistically compared to results from Monitoring Well MW-1.

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.

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

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 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[8] 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)[9] 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:

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

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

8 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).
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).

in addition to identifying the constituent(s) detected at a statistically significant increase over background levels);

AESI Petersburg operated under the assessment monitoring 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 arsenic, lithium, and molybdenum; however, these are the same constituent SSLs previously identified. SSLs and associated wells are summarized on Page 2.

Since there were no new Appendix IV constituents identified, an additional notification was not triggered pursuant to 40 CFR 257.95(g).

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

Table 7 summarizes the groundwater protection standards established in accordance with § 257.95(d)(2) and § 257.95(h) associated with both 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. 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.
- Continue N&E work pursuant to § 257.95(g) including but not limited to: 1) the continuation of the ongoing landfill characterization efforts and 2) collect groundwater samples to better define the subsurface conditions and groundwater quality within historic subsurface mine works immediately surrounding the landfill as it relates to establishing representative background conditions for the landfill and Ash Pond System, CMA, and selection of remedy support.
- Install supplemental background monitoring wells MW-1A and MW-12A and collect a minimum of four rounds groundwater samples.
- Potentially conduct 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 process 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 RWS Type I Landfill. 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

Robert T. Duncan

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

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

Copies: Mr. Jeff Harter
Mr. John Hendrix
Ms. Pilar Cuadra

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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LEGEND:

- AES INDIANA PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF REGULATED CCR SURFACE IMPOUNDMENT
- APPROXIMATE LIMITS OF NON - REGULATED CCR SURFACE IMPOUNDMENT
- RESTRICTED WASTE SITE (RWS) TYPE I LANDFILL BOUNDARY
- PERMITTED EXPANSION AREA BOUNDARY

NOTE: ALL LOCATIONS ARE APPROXIMATE
7.5 MINUTE (1:24,000) USGS QUADRANGLE MAPS
1980 SANDY HOOK, IN
1980 MONROE CITY, IN

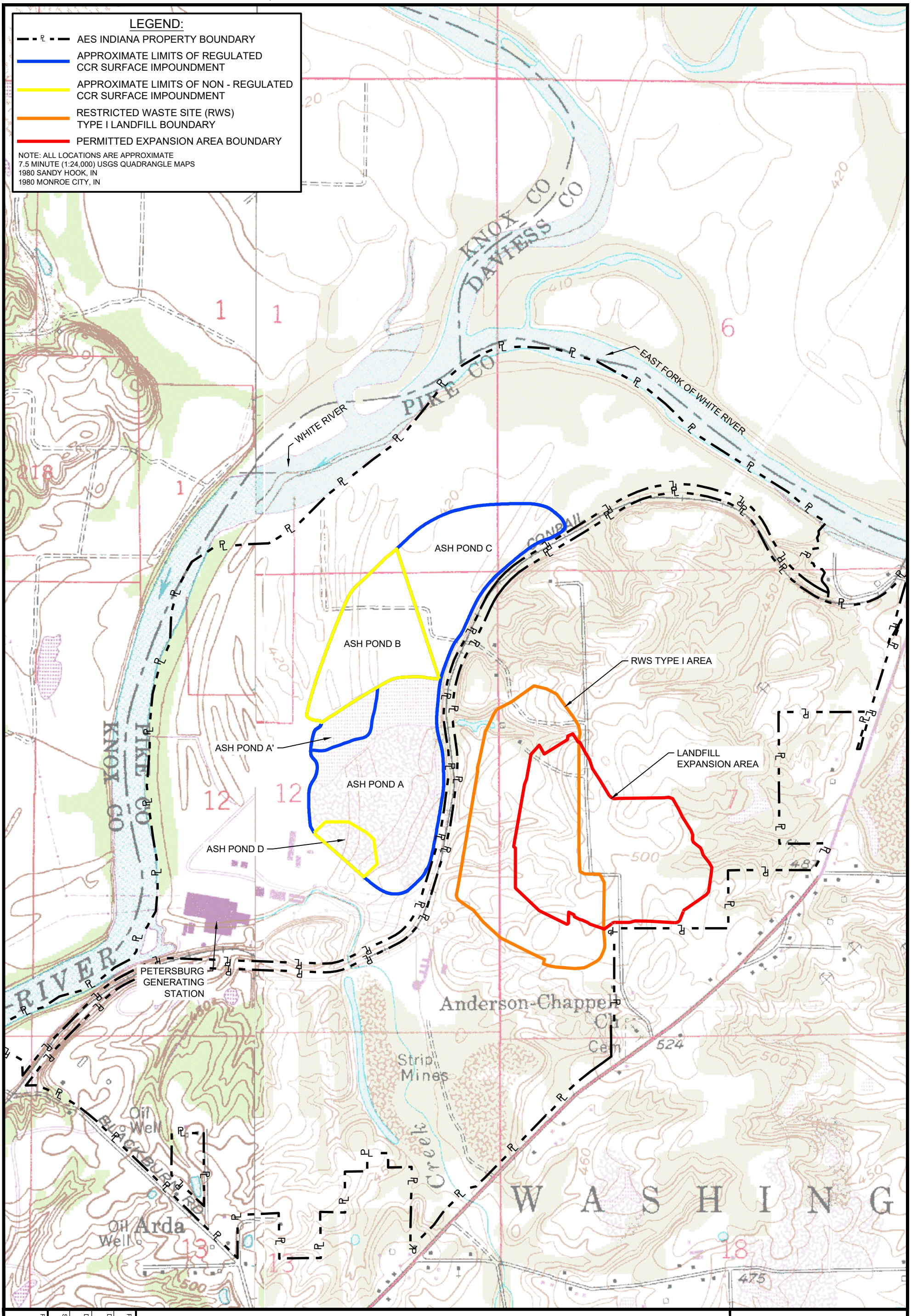

Figure: 1

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

SITE LOCATION MAP

AES INDIANA PETERSBURG GENERATING STATION
RWS I LANDFILL
PETERSBURG, INDIANA

ATLAS

LEGEND:

- MW-1 — CCR MONITORING WELL — Well Identification
- MW-14 — EXISTING NATURE AND EXTENT MONITORING WELL — Well Identification
- MW-15B — 2022 NATURE AND EXTENT MONITORING WELL — Well Identification
- LW-1 — EXISTING OBSERVATION WELL — Well Identification
- PZ-1A — 2019/2020 PIEZOMETER — Piezometer Identification
- FACILITY BOUNDARY
- RESTRICTED WASTE SITE (RWS) TYPE I LANDFILL BOUNDARY
- PERMITTED EXPANSION AREA BOUNDARY

MW-20B
MW-20I
MW-20A
MW-18
MW-17
MW-30I
MW-30D2
RWS TYPE I AREA
MW-10
MW-31D2
MW-32I
MW-32D1
MW-32D2
MW-22
LW-18
LANDFILL EXPANSION AREA
MW-4C
MW-16
MW-11
LW-8A
LW-8B
MW-33I
MW-33D2
MW-23
MW-34A
MW-34D1
MW-34D2
MW-34SS
MW-15
MW-15B
LW-6A
LW-6B
LW-2
MW-24
MW-3
LW-1A
LW-1B
LW-28A
LW-28B
MW-14
MW-12
MW-35D1
MW-35D2
MW-35SS
MW-2R
MW-13
MW-1

N

800 0 200 400 600 800

SCALE: 1" = 800'

Drn. By: BH	Ckd. By: MB	App'd By:	Ckd. Date:
Project Number: 170LF01112	Drawing File: SEE LOWER LEFT		

CCR GROUNDWATER MONITORING SYSTEM

AES INDIANA PETERSBURG GENERATING STATION
RWS TYPE I LANDFILL
PETERSBURG, INDIANA

Date: 1/22
Scale: AS SHOWN
Figure: 2

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LEGEND:

- MW-1 496.61 — IDEM PERMIT MONITORING WELL (Well Identification; Static Water Level)
- LW-6B — 1991 LANDFILL OBSERVATION WELL (Well Identification)
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- NG = NOT GAUGED
- PERMITTED LANDFILL BOUNDARY
- PERMITTED LANDFILL EXPANSION BOUNDARY
- FACILITY BOUNDARY
- 660 — 2013 LiDAR CONTOURS
- FR = FLOW RATE

MW-10 461.69
MW-4C 448.54
MW-3 440.42
MW-2R 436.69
MW-13 465.31
MW-1 497.23
MW-11 480.84
MW-12 485.77
LW-18
LW-8A LW-8B 493.19
LW-6A
LW-28A LW-28B 486.92
LW-1A LW-1B 490.80
FR1: 0.17
FR2: 0.31
440 445 450 455 460 465 470 475 480 485 490 495

N

400 0 100 200 300 400
SCALE: 1" = 400'

POTENTIOMETRIC SURFACE MAP OCTOBER 31, 2021 - ZONE B

PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Drn. By:	PH
Ckd. By:	MB
App'd By:	
Ckd. Date:	
Project Number:	170LF01113
Drawing File:	SEE LOWER LEFT
Date:	1/22
Scale:	AS SHOWN
Figure:	3

ATC

H:\2022\IPL\PETERSBURG\170LF01113\170LF01113-POT-ZONE B.DWG, 11X17L

LEGEND:

- MW-1 / 496.61 — IDEM PERMIT MONITORING WELL (Well Identification / Static Water Level)
- LW-6B — 1991 LANDFILL OBSERVATION WELL (Well Identification)
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- NG = NOT GAUGED
- PERMITTED LANDFILL BOUNDARY
- PERMITTED LANDFILL EXPANSION BOUNDARY
- FACILITY BOUNDARY
- 660 — 2013 LiDAR CONTOURS
- FR = FLOW RATE

MW-10
MW-4C
MW-3
MW-2R
MW-13
MW-1
MW-11
MW-12
LW-18 460.15
LW-8A 461.63 LW-8B
LW-6A 474.25
LW-28A 483.41 LW-28B
LW-1A 487.90 LW-1B
465
470
475
480
485
FR1: 0.016

N

400 0 100 200 300 400

SCALE: 1" = 400'

Drn. By:	PH
Ckd. By:	MB
App'd By:	
Ckd. Date:	
Project Number:	170LF01113
Drawing File:	SEE LOWER LEFT

ATC

POTENTIOMETRIC SURFACE MAP OCTOBER 31, 2021 - ZONE A

PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Date: 1/22
Scale: AS SHOWN
Figure: 4

H:\2022\IP\PETERSBURG\170LF01113\170LF01113-POT-ZONE A.DWG, 11X17L

LEGEND:

- MW-1 496.61 — IDEM PERMIT MONITORING WELL
  - Well Identification
  - Static Water Level
- LW-6B — 1991 LANDFILL OBSERVATION WELL
  - Well Identification
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- NG = NOT GAUGED
- PERMITTED LANDFILL BOUNDARY
- PERMITTED LANDFILL EXPANSION BOUNDARY
- FACILITY BOUNDARY
- 660 — 2013 LiDAR CONTOURS
- FR = FLOW RATE

MW-10 464.38
MW-4C 448.75
MW-3 441.25
MW-2R 442.51
MW-13 469.65
MW-1 498.31
MW-11 485.60
MW-12 493.04
LW-18
LW-8A LW-8B 493.07
LW-6A
LW-28A LW-28B 488.17
LW-1A LW-1B 491.95
FR1: 0.18
FR2: 0.30
445 450 455 460 465 470 475 480 485 490 490 495

N

400 0 100 200 300 400
SCALE: 1" = 400'

Drn. By:	PH
Ckd. By:	MB
App'd By:	
Ckd. Date:	
Project Number:	170LF01113
Drawing File:	SEE LOWER LEFT

ATC

POTENTIOMETRIC SURFACE MAP MAY 1, 2022 - ZONE B

PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Date:	6/22
Scale:	AS SHOWN
Figure:	5

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LEGEND:

- MW-1 / 496.61 — IDEM PERMIT MONITORING WELL (Well Identification / Static Water Level)
- LW-6B — 1991 LANDFILL OBSERVATION WELL (Well Identification)
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- NG = NOT GAUGED
- PERMITTED LANDFILL BOUNDARY
- PERMITTED LANDFILL EXPANSION BOUNDARY
- FACILITY BOUNDARY
- 660 — 2013 LiDAR CONTOURS
- FR = FLOW RATE

MW-10
MW-4C
MW-3
MW-2R
MW-13
MW-1
MW-11
MW-12
LW-18 461.69
LW-8A 461.92 LW-8B
LW-6A 477.54
LW-28A 486.54 LW-28B
LW-1A 492.40 LW-1B
465
470
475
480
485
490
FR1: 0.019

N

400 0 100 200 300 400

SCALE: 1" = 400'

Drn. By:	PH
Ckd. By:	MB
App'd By:	
Ckd. Date:	
Project Number:	170LF01113
Drawing File:	SEE LOWER LEFT

ATC

POTENTIOMETRIC SURFACE MAP MAY 1, 2022 - ZONE A

PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Date: 6/22
Scale: AS SHOWN
Figure: 6

H:\2022\AES INDIANA\PETERSBURG\170LF01279\170LF01279-POT-ZONE A MAY 2022.DWG, 11X17L

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 – February 2022
Table 5:	Summary of Monitoring Results – April 2022
Table 6:	Summary of Monitoring Results – May 2022
Table 7:	Groundwater Protection Standards Summary – November 2021 and May 2022

Table 1
Well Sampling Summary
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-1	11/21/1986	Upgradient	2	5/4/2022 11/7/2022	Assessment
MW-2 (2R)	MW-2 - 1986 MW-2R - 2/1/2017	Downgradient	4	5/8/2022 6/29/2022 8/9/2022 11/7/2022	Assessment
MW-3	1986	Downgradient	4	5/8/2022 6/30/2022 8/9/2022 11/7/2022	Assessment
MW-4C	9/29/1992	Downgradient	4	5/8/2022 6/30/2022 8/9/2022 11/8/2022	Assessment
MW-10	1/30/2017	Downgradient	4	5/4/2022 6/29/2022 8/9/2022 11/7/2022	Assessment
MW-11	1/25/2017	Downgradient	4	5/4/2022 6/30/2022 8/10/2022 11/7/2022	Assessment
MW-12	1/26/2017	Downgradient	2	5/4/2022 11/7/2022	Assessment
MW-13	1/31/2017	Downgradient	4	5/4/2022 6/29/2022 8/9/2022 11/8/2022	Assessment
MW-14	4/3/2019	Nature & Extent	2	5/5/2022 11/6/2022	Assessment
MW-15	4/2/2019	Nature & Extent	2	5/5/2022 11/6/2022	Assessment
MW-16	4/1/2019	Nature & Extent	2	5/5/2022 11/7/2022	Assessment
MW-20B	4/21/2020	Nature & Extent	1	5/3/2022	Assessment
MW-20I	4/21/2020	Nature & Extent	2	5/3/2022 11/6/2022	Assessment
MW-20A	4/22/2020	Nature & Extent	2	5/3/2022 11/6/2022	Assessment
MW-22	10/26/2020	Nature & Extent	0	NS	Assessment
MW-23	10/25/2020	Nature & Extent	0	NS	Assessment
MW-24	10/28/2020	Nature & Extent	1	11/18/2022	Assessment
MW-30D2	10/27/2021	Nature & Extent	2	2/9/2022 4/19/2022	Assessment
MW-31D2	10/25/2021	Nature & Extent	2	2/7/2022 4/19/2022	Assessment
MW-32I	10/19/2021	Nature & Extent	1	4/20/2022	Assessment

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

Table 1
Well Sampling Summary
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-32D1	10/19/2021	Nature & Extent	2	2/9/2022 4/19/2022	Assessment
MW-32D2	10/15/2021	Nature & Extent	4	2/9/2022 4/19/2022 5/11/2022 5/24/2022	Assessment
MW-33I	10/21/2021	Nature & Extent	4	2/9/2022 4/20/2022 5/10/2022 5/24/2022	Assessment
MW-33D2	10/21/2021	Nature & Extent	5	2/9/2022 4/20/2022 5/10/2022 5/24/2022 12/21/2022	Assessment
MW-34A	10/14/2021	Nature & Extent	2	2/8/2022 4/19/2022	Assessment
MW-34D1	10/13/2021	Nature & Extent	2	2/8/2022 4/19/2022	Assessment
MW-34SS	10/12/2021	Nature & Extent	2	2/10/2022 4/20/2022	Assessment
MW-34D2	10/12/2021	Nature & Extent	2	2/9/2022 4/19/2022	Assessment
MW-35D1	10/20/2021	Nature & Extent	2	2/9/2022 4/19/2022	Assessment
MW-35SS	10/20/2021	Nature & Extent	4	2/10/2022 4/20/2022 5/11/2022 5/24/2022	Assessment
MW-35D2	10/20/2021	Nature & Extent	4	2/9/2022 4/19/2022 5/11/2022 5/24/2022	Assessment

Notes
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.
NS = Not Sampled in 2022.

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

Table 2
Groundwater Elevation Data
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-1	5/1/2022	528.11	29.80	498.31
	11/1/2022		30.80	497.31
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
MW-4C	5/1/2022	454.44	5.69	448.75
	11/1/2022		6.15	448.29
MW-10	5/1/2022	502.38	38.00	464.38
	11/1/2022		40.68	461.70
MW-11	5/1/2022	517.51	31.91	485.60
	11/1/2022		31.41	486.10
MW-12	5/1/2022	517.64	24.60	493.04
	11/1/2022		30.31	487.33
MW-13	5/1/2022	480.97	11.32	469.65
	11/1/2022		15.45	465.52
MW-14	5/1/2022	436.46	16.13	420.33
	11/1/2022		17.60	418.86
MW-15B	11/4/2022	444.69	11.10	433.59
MW-15	5/1/2022	444.11	18.84	425.27
	11/1/2022		24.50	419.61
MW-16	5/1/2022	442.78	3.36	439.42
	11/1/2022		3.78	439.00
MW-17	5/1/2022	472.33	14.97	457.36
	11/1/2022		17.82	454.51
MW-18	5/1/2022	458.27	5.64	452.63
	11/1/2022		9.17	449.10
MW-20B	5/1/2022	423.97	10.10	413.87
	11/1/2022		DRY	NA

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

Table 2
Groundwater Elevation Data
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
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-22	5/1/2022	561.61	84.40	477.21
	11/1/2022		84.43	477.18
MW-23	5/1/2022	564.60	82.45	482.15
	11/1/2022		82.28	482.32
MW-24	5/1/2022	452.71	12.71	440.00
	11/1/2022		13.53	439.18
MW-30D2	2/7/2022	502.82	88.10	414.72
	4/19/2022		87.45	415.37
	5/1/2022		85.34	417.48
	11/1/2022		92.37	410.45
MW-31D2	2/7/2022	453.91	33.88	420.03
	4/19/2022		33.01	420.90
	5/1/2022		32.82	421.09
	11/1/2022		39.81	414.10
MW-32I	2/7/2022	516.33	DRY	NA
	4/20/2022		50.07	466.26
	5/1/2022		49.22	467.11
	11/1/2022		DRY	NA
MW-32D1	2/7/2022	516.22	74.59	441.63
	4/19/2022		74.39	441.83
	5/1/2022		74.03	442.19
	11/1/2022		73.84	442.38
MW-32D2	2/7/2022	516.29	101.45	414.84
	4/19/2022		100.68	415.61
	5/1/2022		98.73	417.56
	11/1/2022		51.12	465.17

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

Table 2
Groundwater Elevation Data
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-33I	2/7/2022	454.81	11.59	443.22
	4/20/2022		12.26	442.55
	5/1/2022		11.11	443.70
	11/1/2022		11.49	443.32
MW-33D2	2/7/2022	454.58	39.75	414.83
	4/20/2022		37.22	417.36
	5/1/2022		37.07	417.51
	11/1/2022		44.10	410.48
MW-34A	2/7/2022	498.25	22.10	476.15
	4/19/2022		20.36	477.89
	5/1/2022		19.80	478.45
	11/1/2022		22.16	476.09
MW-34D1	2/7/2022	498.82	32.50	466.32
	4/19/2022		30.81	468.01
	5/1/2022		30.56	468.26
	11/1/2022		31.82	467.00
MW-34SS	2/7/2022	498.95	54.05	444.90
	4/20/2022		61.05	437.90
	5/1/2022		47.80	451.15
	11/1/2022		31.74	467.21
MW-34D2	2/7/2022	499.31	81.45	417.86
	4/19/2022		82.30	417.01
	5/1/2022		79.13	420.18
	11/1/2022		83.31	416.00
MW-35D1	2/7/2022	470.09	15.55	454.54
	4/19/2022		13.65	456.44
	5/1/2022		13.81	456.28
	11/1/2022		16.25	453.84

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

Table 2
Groundwater Elevation Data
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-35SS	2/7/2022	470.16	43.44	426.72
	4/20/2022		54.60	415.56
	5/1/2022		46.43	423.73
	11/1/2022		20.50	449.66
MW-35D2	2/7/2022	470.54	53.05	417.49
	4/19/2022		52.35	418.19
	5/1/2022		50.56	419.98
	11/1/2022		56.45	414.09
LW-1B	5/1/2022	504.40	12.45	491.95
	11/1/2022		17.95	486.45
LW-1A	5/1/2022	504.40	12.00	492.40
	11/1/2022		16.35	488.05
LW-2	5/1/2022	518.90	80.52	438.38
	11/1/2022		80.63	438.27
LW-6B	5/1/2022	518.90	DRY	NA
LW-6A	5/1/2022	518.90	41.36	477.54
	11/1/2022		43.78	475.12
LW-8B	5/1/2022	524.90	31.83	493.07
	11/1/2022		31.63	493.27
LW-8A	5/1/2022	524.90	62.98	461.92
	11/1/2022		61.78	463.12
LW-18	5/1/2022	510.70	49.01	461.69
	11/1/2022		47.95	462.75

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

Table 2
Groundwater Elevation Data
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
LW-28B	5/1/2022	504.40	16.23	488.17
	11/1/2022		20.32	484.08
LW-28A	5/1/2022	504.40	17.86	486.54
	11/1/2022		17.32	487.08

Notes:

TOC = Top of Casing

NA = Not Available

For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.

ft-MSL = feet above Mean Sea Level

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

Table 3
Summary of Monitoring Results - November 2021
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-1	MW-2R	MW-3	MW-4C	MW-10
Sample Date		11/1/2021	11/1/2021	11/1/2021	11/1/2021	11/2/2021
Lab ID		50301708001	50301711001	50301711002	50301711003	50301797001
Static Water Elevation (ft MSL)		497.23	436.69	440.42	448.54	461.69
Field Parameters	**Units**					
Temperature	°C	14.18	15.15	16.77	16.99	14.63
Dissolved Oxygen, Field	mg/L	5.70	0.17	0.20	1.04	0.42
Conductivity, Field	uS/cm	726.80	3027.60	2200.20	2738.50	3062.90
ORP, Field	mV	138.10	172.90	209.60	168.40	129.00
pH, Field	Std. Units	6.64	6.24	6.70	6.51	6.56
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	274	151	NS	358	666
Alkalinity,Bicarbonate (CaCO3)	mg/L	274	151	NS	358	666
Alkalinity,Carbonate (CaCO3)	mg/L	<2	<2	NS	<2	<2
Aluminum, Total	ug/L	<200	<200	<200	<200	2680
Antimony, Total	ug/L	<1	<1	<1	<1	<1
Arsenic, Total	ug/L	<1	9.9	17.9	<1	102
Arsenic, Dissolved	ug/L	NS	NS	NS	NS	NS
Barium, Total	ug/L	58.4	54	38.2	30.7	86.2
Beryllium, Total	ug/L	<0.2	<0.2	<0.2	<0.2	0.42
Boron, Total	ug/L	163	2160	896	3940	24900
Cadmium, Total	ug/L	<2	<2	<2	<2	<2
Calcium, Total	ug/L	153000	512000	243000	559000	558000
Chloride	mg/L	5.1	95.2	86.4	41.7	118
Chromium, Total	ug/L	<10	<10	<10	<10	<10
Cobalt, Total	ug/L	<1	2.2	2.3	1.1	2.9
Dissolved Organic Carbon	mg/L	<1	1.1		2.3	8.8
Fluoride	mg/L	0.11	<0.1	0.1	<0.1	0.44
Iron, Total	ug/L	<100	10500	<100	<100	36400
Iron, Ferrous	mg/L	<0.2	<0.2		<0.2	<0.2
Lead, Total	ug/L	<10	<10	<10	<10	<10
Lithium, Total	ug/L	<20.0	912	1880	334	60
Lithium, Dissolved	ug/L	NS	NS	NS	NS	NS
Magnesium, Total	ug/L	38900	59900	15300	58300	117000
Manganese, Total	ug/L	<10.0	5970	1070	1000	2700
Manganese, Dissolved	ug/L	<10.0	6680	NS	2250	2730
Molybdenum, Total	ug/L	<10.0	11.0	501	<10.0	17.8
Molybdenum, Dissolved	ug/L	<10.0	12.1	NS	<10.0	16.8
Nitrogen, Nitrate	mg/L	4.3	<0.10	NS	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	NS	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	0.56	NS	<0.15	1.6
Potassium, Total	ug/L	1500	95500	223000	43900	36600
Radium-226	pCi/L	<0.276	<0.0728	0.564	<0.116	<-0.0714
Radium-228	pCi/L	0.535	0.697	1.03	1.13	<0.133
Selenium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silica, Total	ug/L	20800	18000	15200	21400	30800
Sodium, Total	ug/L	4370	124000	97400	80800	73500
Sulfate	mg/L	237	1630	858	1420	1010
Sulfide	mg/L	<0.10	<0.10	NS	<0.10	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	668	2630	1670	2530	2510
Total Organic Carbon	mg/L	<1.0	1.2	NS	2.3	8.6
Total Radium	pCi/L	<0.811	<0.77	1.59	1.25	<0.133
pH at 25 Degrees C	Std. Units	7.1	7.1	7.5	6.8	6.7

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 3
Summary of Monitoring Results - November 2021
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-11	MW-12	MW-13	MW-14	MW-15
Sample Date		11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/3/2021
Lab ID		50301797002	50301797003	50301797004	50301796001	50302003001
Static Water Elevation (ft MSL)		480.84	485.77	465.31	426.23	422.30
Field Parameters	**Units**					
Temperature	°C	14.54	14.65	15.46	18.19	14.00
Dissolved Oxygen, Field	mg/L	4.09	9.41	0.65	0.29	0.58
Conductivity, Field	uS/cm	1017.70	409.46	2733.60	978.60	2047.50
ORP, Field	mV	106.90	121.40	157.80	51.90	182.00
pH, Field	Std. Units	6.73	9.41	6.83	6.58	6.72
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	149	145	169	372	198
Alkalinity,Bicarbonate (CaCO3)	mg/L	149	145	169	372	198
Alkalinity,Carbonate (CaCO3)	mg/L	<2	<2	<2	<2	<2
Aluminum, Total	ug/L	9120	1520	<200	539	<200
Antimony, Total	ug/L	<1	<1	<1	<1	<1
Arsenic, Total	ug/L	13.5	1.3	<1	8.9	<1
Arsenic, Dissolved	ug/L	NS	NS	NS	NS	NS
Barium, Total	ug/L	100	31.6	29	75.8	80.8
Beryllium, Total	ug/L	1	<0.2	<0.2	<0.2	<0.2
Boron, Total	ug/L	1050	<100	2420	585	1510
Cadmium, Total	ug/L	<2	<2	<2	<2	<2
Calcium, Total	ug/L	163000	50100	637000	168000	286000
Chloride	mg/L	2.9	8.9	46.2	5.8	89.9
Chromium, Total	ug/L	23.5	<10	<10	<10	<10
Cobalt, Total	ug/L	3.5	<1	<1	1.3	<1
Dissolved Organic Carbon	mg/L	<1	1.1	<1	<1	1.1
Fluoride	mg/L	0.15	0.14	0.73	0.1	<0.1
Iron, Total	ug/L	39500	1390	441	8970	2170
Iron, Ferrous	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Lead, Total	ug/L	12.4	<10	<10	<10	<10
Lithium, Total	ug/L	<20.0	<20.0	492	<20.0	972
Lithium, Dissolved	ug/L	NS	NS	NS	NS	NS
Magnesium, Total	ug/L	46400	19900	25600	38000	42300
Manganese, Total	ug/L	94.6	36.0	51.0	1560	537
Manganese, Dissolved	ug/L	<10.0	<10.0	<10.0	1690	589
Molybdenum, Total	ug/L	<10.0	<10.0	75.0	<10.0	81.4
Molybdenum, Dissolved	ug/L	<10.0	<10.0	77.0	<10.0	88.2
Nitrogen, Nitrate	mg/L	2.5	11.0	0.2	0.47	0.15
Nitrogen, Nitrite	mg/L	<0.10	<1.0	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.87	<0.15	<0.15	1.7	0.21
Potassium, Total	ug/L	2480	<1000	30000	1030	75600
Radium-226	pCi/L	<0.0791	<-0.131	<0.168	<0.0952	0.856
Radium-228	pCi/L	0.528	<0.372	<0.284	0.643	1.02
Selenium, Total	ug/L	4.7	<1.0	8.5	<1.0	<1.0
Silica, Total	ug/L	34200	23900	15600	14900	16100
Sodium, Total	ug/L	3140	3540	72400	7900	86700
Sulfate	mg/L	415	14.1	1550	178	847
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	761	217	2440	669	1650
Total Organic Carbon	mg/L	<1.0	<1.0	<2.0	1.1	1.2
Total Radium	pCi/L	<0.607	<0.372	<0.452	0.738	1.88
pH at 25 Degrees C	Std. Units	7.1	7.2	7.2	7.2	7.3

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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-16	MW-20B	MW-20I	MW-20A	MW-22
Sample Date		11/3/2021	11/8/2021	11/8/2021	11/8/2021	11/9/2021
Lab ID		50302003002	50302319006	50302319005	50302319004	50302463001
Static Water Elevation (ft MSL)		439.52	412.04	412.29	412.32	476.00
Field Parameters	**Units**					
Temperature	°C	15.86	15.72	14.55	14.27	17.82
Dissolved Oxygen, Field	mg/L	0.44	0.15	0.17	0.70	1.38
Conductivity, Field	uS/cm	2629.50	651.66	513.53	1200.80	4028.40
ORP, Field	mV	186.10	74.30	43.80	-52.20	192.90
pH, Field	Std. Units	6.78	6.20	6.54	6.57	7.37
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	157	418	345	191	321
Alkalinity,Bicarbonate (CaCO3)	mg/L	157	418	345	191	321
Alkalinity,Carbonate (CaCO3)	mg/L	<2	<2	<2	<2	<2
Aluminum, Total	ug/L	296	301	<200	<200	<200
Antimony, Total	ug/L	<1	<1	<1	<1	<1
Arsenic, Total	ug/L	6.7	<1	<1	2.1	7.7
Arsenic, Dissolved	ug/L	NS	NS	NS	NS	NS
Barium, Total	ug/L	57.8	119	64.4	35.7	74.2
Beryllium, Total	ug/L	<0.4	<0.2	<0.2	<0.2	<2
Boron, Total	ug/L	3070	632	313	15800	2740
Cadmium, Total	ug/L	<2	<2	<2	<2	<2
Calcium, Total	ug/L	314000	172000	128000	455000	397000
Chloride	mg/L	97.9	18.2	11.2	79.3	228
Chromium, Total	ug/L	<10	<10	<10	<10	<10
Cobalt, Total	ug/L	<1	<1	1.3	<1	<1
Dissolved Organic Carbon	mg/L	1.3	1.1	<1	1.4	5.3
Fluoride	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Iron, Total	ug/L	6730	322	<100	8290	5180
Iron, Ferrous	mg/L	<0.2	<0.2	<0.2	1.3	<0.2
Lead, Total	ug/L	<10	<10	<10	<10	<10
Lithium, Total	ug/L	2170	<20.0	<20.0	<20.0	4880
Lithium, Dissolved	ug/L	NS	NS	NS	NS	NS
Magnesium, Total	ug/L	18200	25300	26700	32600	22300
Manganese, Total	ug/L	2920	140	1820	1410	1980
Manganese, Dissolved	ug/L	3110	122	1920	1480	2280
Molybdenum, Total	ug/L	484	<10.0	<10.0	463	1010
Molybdenum, Dissolved	ug/L	450	<10.0	<10.0	474	571
Nitrogen, Nitrate	mg/L	<0.10	3.0	1.8	<0.10	1.9
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	2.3	<0.15	<0.15	0.19	1.1
Potassium, Total	ug/L	239000	1090	<1000	5910	456000
Radium-226	pCi/L	0.709	<0.346	<0.267	<-0.406	0.911
Radium-228	pCi/L	1.94	0.522	0.638	0.553	1.35
Selenium, Total	ug/L	<1.0	3.7	1.7	<1.0	1.0
Silica, Total	ug/L	11800	14600	11100	12300	15200
Sodium, Total	ug/L	144000	12200	5780	30700	356000
Sulfate	mg/L	1130	80.7	47	1060	1770
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	2120	618	476	1850	3260
Total Organic Carbon	mg/L	1.4	1.3	<1.0	1.2	5.4
Total Radium	pCi/L	2.65	0.868	0.905	<0.553	2.26
pH at 25 Degrees C	Std. Units	7.2	7.3	7.2	7.2	7.3

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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
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Well ID		MW-23	MW-24	MW-30D2	MW-31D2	MW-32D1
Sample Date		11/9/2021	11/10/2021	12/8/2021	11/17/2021	11/17/2021
Lab ID		50302463002	50302472001	50304775001	50303157001	50303157002
Static Water Elevation (ft MSL)		481.16	439.23	412.73	420.51	441.68
Field Parameters	**Units**					
Temperature	°C	17.17	16.10	15.58	16.75	15.54
Dissolved Oxygen, Field	mg/L	7.15	0.09	0.08	0.45	0.78
Conductivity, Field	uS/cm	415.74	1793.90	567.72	474.15	719.09
ORP, Field	mV	33.00	174.70	127.80	140.0	95.60
pH, Field	Std. Units	7.66	7.14	8.86	8.24	7.07
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	144	177	270	245	185
Alkalinity,Bicarbonate (CaCO3)	mg/L	144	177	236	234	185
Alkalinity,Carbonate (CaCO3)	mg/L	<2	<2	33.8	11.2	<2
Aluminum, Total	ug/L	<200	<200	15400	2580	239
Antimony, Total	ug/L	<1	<1	6.4	<1	<1
Arsenic, Total	ug/L	<1	<1	7.4	1.8	<1
Arsenic, Dissolved	ug/L	NS	NS	3.1	1.3	<1
Barium, Total	ug/L	14.1	39.2	178	250	69.2
Beryllium, Total	ug/L	<0.2	<0.2	0.96	<0.2	<0.2
Boron, Total	ug/L	<100	895	796	1180	<100
Cadmium, Total	ug/L	<2	<2	2.1	<2	<2
Calcium, Total	ug/L	61400	247000	11300	12500	109000
Chloride	mg/L	9.1	53.9	11.9	9.3	2.7
Chromium, Total	ug/L	<10	<10	173	<10	<10
Cobalt, Total	ug/L	<1	1.4	8.5	1.1	<1
Dissolved Organic Carbon	mg/L	<1	1	<1	<1	<1
Fluoride	mg/L	0.14	<0.1	0.92	0.89	<0.1
Iron, Total	ug/L	<100	<100	22800	2300	2060
Iron, Ferrous	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Lead, Total	ug/L	<10	<10	10.4	<10	<10
Lithium, Total	ug/L	<20.0	1470	35.5	<20.0	<20.0
Lithium, Dissolved	ug/L	NS	NS	<20.0	<20.0	<20.0
Magnesium, Total	ug/L	17000	26500	5790	3830	32700
Manganese, Total	ug/L	<10.0	760	447	74.6	105
Manganese, Dissolved	ug/L	<10.0	774	18.5	39.1	116
Molybdenum, Total	ug/L	<10.0	379	64.6	<10.0	<10.0
Molybdenum, Dissolved	ug/L	<10.0	361	47.7	<10.0	<10.0
Nitrogen, Nitrate	mg/L	0.11	<0.10	0.28	0.11	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	<0.15	<0.15	2.9	0.26	<0.15
Potassium, Total	ug/L	<1000	154000	7160	2630	1360
Radium-226	pCi/L	<0.0607	0.394	2.30	0.514	0.404
Radium-228	pCi/L	<0.0912	<-0.033	0.959	0.527	<0.383
Selenium, Total	ug/L	<1.0	<1.0	5.4	<1.0	<1.0
Silica, Total	ug/L	15900	18300	54600	19200	20700
Sodium, Total	ug/L	1600	74600	143000	95300	4590
Sulfate	mg/L	18.2	788	5.1	2.5	242
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	212	1490	456	328	518
Total Organic Carbon	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Total Radium	pCi/L	<0.152	<0.394	3.26	1.04	0.787
pH at 25 Degrees C	Std. Units	7.8	7.3	9.0	7.9	6.6

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Std. Units: standard units
mg/L: milligram per liter
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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-32D2	MW-33I	MW-33D2	MW-34A	MW-34D1
Sample Date		12/8/2021	12/1/2021	12/1/2021	11/16/2021	11/16/2021
Lab ID		50304775002	50304073001	50304073002	50303157003	50303157004
Static Water Elevation (ft MSL)		412.87	441.26	412.60	475.09	465.32
Field Parameters	**Units**					
Temperature	°C	15.19	16.87	14.69	14.40	14.57
Dissolved Oxygen, Field	mg/L	0.22	0.23	1.36	0.13	0.32
Conductivity, Field	uS/cm	657.91	2516.20	1135.50	587.32	681.62
ORP, Field	mV	131.10	162.5	128.20	-62.4	141.3
pH, Field	Std. Units	8.20	7.18	8.70	6.78	7.12
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	232	115	543	292	291
Alkalinity,Bicarbonate (CaCO3)	mg/L	219	115	500	292	291
Alkalinity,Carbonate (CaCO3)	mg/L	12.8	<2	42.6	<2	<2
Aluminum, Total	ug/L	9270	387	30400	429	<200
Antimony, Total	ug/L	1.9	<1	<1	<1	<1
Arsenic, Total	ug/L	3.2	1.5	8.7	1.9	<1
Arsenic, Dissolved	ug/L	<1	1.2	1	1.2	<1
Barium, Total	ug/L	171	80.7	283	93.2	115
Beryllium, Total	ug/L	0.51	<0.2	1.4	<0.2	<0.2
Boron, Total	ug/L	815	1690	1060	<100	<100
Cadmium, Total	ug/L	<2	<2	<2	<2	<2
Calcium, Total	ug/L	19700	331000	8960	67000	101000
Chloride	mg/L	21.9	100	51	3.1	3.6
Chromium, Total	ug/L	31.9	<10	47	<10	<10
Cobalt, Total	ug/L	4.9	3.8	16	<1	<1
Dissolved Organic Carbon	mg/L	2.1	1.7	<1	1.2	<1
Fluoride	mg/L	1.1	0.15	3.8	0.18	0.11
Iron, Total	ug/L	12200	3440	36200	6250	4980
Iron, Ferrous	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Lead, Total	ug/L	<10	<10	17.2	<10	<10
Lithium, Total	ug/L	36.1	220	63.0	<20.0	<20.0
Lithium, Dissolved	ug/L	22.2	200	22.2	<20.0	<20.0
Magnesium, Total	ug/L	7310	71400	9340	24600	31400
Manganese, Total	ug/L	276	3030	629	433	732
Manganese, Dissolved	ug/L	40.3	3210	13.9	423	776
Molybdenum, Total	ug/L	22.5	34.4	17.5	<10.0	<10.0
Molybdenum, Dissolved	ug/L	17.4	35.2	<10.0	<10.0	<10.0
Nitrogen, Nitrate	mg/L	0.17	<0.10	0.29	<0.10	<0.10
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.94	<0.15	2.8	<0.15	<0.15
Potassium, Total	ug/L	6610	7580	11100	1860	1470
Radium-226	pCi/L	1.38	0.61	1.46	0.894	0.538
Radium-228	pCi/L	1.32	2.94	0.79	<0.421	0.808
Selenium, Total	ug/L	1.4	<1.0	4.8	<1.0	<1.0
Silica, Total	ug/L	36900	18000	61500	22900	20300
Sodium, Total	ug/L	134000	282000	256000	16700	5960
Sulfate	mg/L	66.9	1610	4.2	12.2	110
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	394	2460	676	305	436
Total Organic Carbon	mg/L	1.3	1.5	<2.0	1.1	<1.0
Total Radium	pCi/L	2.7	3.55	2.25	1.32	1.35
pH at 25 Degrees C	Std. Units	8.3	7.1	8.7	6.5	6.6

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Petersburg, Indiana
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Well ID		MW-34SS	MW-34D2	MW-35D1	MW-35SS	MW-35D2
Sample Date		12/8/2021	11/17/2021	12/1/2021	12/9/2021	12/1/2021
Lab ID		50304775003	50303157005	50304073003	50304775004	50304073004
Static Water Elevation (ft MSL)		425.26	416.44	453.77	417.16	415.78
Field Parameters	**Units**					
Temperature	°C	7.39	15.84	14.39	12.98	14.18
Dissolved Oxygen, Field	mg/L	0.84	0.46	0.10	0.86	0.84
Conductivity, Field	uS/cm	564.02	676.71	1193.20	600.15	749.01
ORP, Field	mV	138.60	152.1	114.40	123.10	117.20
pH, Field	Std. Units	7.39	8.43	7.05	7.86	8.73
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	301	310	298	288	406
Alkalinity,Bicarbonate (CaCO3)	mg/L	301	281	298	278	372
Alkalinity,Carbonate (CaCO3)	mg/L	<2	29.2	<2	10.6	33.6
Aluminum, Total	ug/L	1680	11100	<200	10600	34900
Antimony, Total	ug/L	<1	<1	<1	<1	<1
Arsenic, Total	ug/L	2.7	1.6	2.2	4.5	12.1
Arsenic, Dissolved	ug/L	1.8	<1	2.1	<1	<1
Barium, Total	ug/L	290	162	110	356	364
Beryllium, Total	ug/L	<0.2	0.6	<0.2	0.69	1.8
Boron, Total	ug/L	220	888	<100	541	1090
Cadmium, Total	ug/L	<2	<2	<2	<2	2.2
Calcium, Total	ug/L	65600	7300	180000	35100	15600
Chloride	mg/L	3.9	20.9	22.1	11	9.8
Chromium, Total	ug/L	<10	17.5	<10	20.6	67.1
Cobalt, Total	ug/L	1.6	2.8	<1	8.8	24
Dissolved Organic Carbon	mg/L	<1	1.2	2	1.6	1.2
Fluoride	mg/L	<0.1	2	0.31	0.46	2.3
Iron, Total	ug/L	3160	6500	4050	21000	52400
Iron, Ferrous	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Lead, Total	ug/L	<10	<10	<10	<10	21.7
Lithium, Total	ug/L	27.6	24.2	96.6	48.8	69.2
Lithium, Dissolved	ug/L	22.9	<20.0	145	27.5	<20.0
Magnesium, Total	ug/L	15300	2530	54500	12600	12900
Manganese, Total	ug/L	399	179	1250	481	1020
Manganese, Dissolved	ug/L	340	34.1	1390	75.1	20.1
Molybdenum, Total	ug/L	18.6	12.5	34.4	<10.0	44.7
Molybdenum, Dissolved	ug/L	18.7	11.8	37.9	<10.0	21.5
Nitrogen, Nitrate	mg/L	0.1	0.31	<0.10	<0.10	0.27
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Phosphate as P04	mg/L	0.32	2.3	0.98	0.91	3.4
Potassium, Total	ug/L	4130	4980	3180	6710	12000
Radium-226	pCi/L	0.413	0.916	0.764	1.97	2.92
Radium-228	pCi/L	1.28	0.563	<-0.122	<0.746	1.44
Selenium, Total	ug/L	<1.0	1.1	<1.0	2.3	7.1
Silica, Total	ug/L	28200	39900	18400	42200	63800
Sodium, Total	ug/L	51100	152000	38900	100000	173000
Sulfate	mg/L	12.5	11.4	492	13.2	7.8
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.10	<0.50
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	351	495	994	316	395
Total Organic Carbon	mg/L	<1.0	<1.0	1.5	<1.0	<2.0
Total Radium	pCi/L	1.69	1.48	0.764	2.72	4.36
pH at 25 Degrees C	Std. Units	7.5	8.6	7.2	8.0	8.5

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
pCi/L: picoCurie per liter

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Table 4

Summary of Monitoring Results - February 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-30D2	MW-31D2	MW-32D1	MW-32D2 [1]	MW-33I
Sample Date		2/9/2022	2/7/2022	2/9/2022	2/9/2022	2/9/2022
Lab ID		50308814002	50308515001	50308814005	50308814006	50308814007
Static Water Elevation (ft MSL)		414.72	420.03	441.63	414.84	443.22
Field Parameters	**Units**					
Temperature	°C	15.58	12.58	13.84	14.43	10.21
Dissolved Oxygen, Field	mg/L	0.20	0.21	0.14	0.00	5.81
Conductivity, Field	uS/cm	573.39	496.99	739.39	523.35	3096.90
ORP, Field	mV	41.4	68.2	-20.0	43.7	50.9
pH, Field	Std. Units	8.72	7.99	6.94	8.54	6.85
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	296	250	193	333	92.9
Alkalinity,Bicarbonate (CaCO3)	mg/L	270	244	193	305	92.9
Alkalinity,Carbonate (CaCO3)	mg/L	26.4	6.6	<2.0	27.6	<2.0
Aluminum, Total	ug/L	5080	6140	1020	228000	<200
Antimony, Total	ug/L	3.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	2.4	1.8	<1.0	98.7	3.0
Arsenic, Dissolved	ug/L	NS	<1	NS	NS	NS
Barium, Total	ug/L	91.3	296	70.3	2240	63
Beryllium, Total	ug/L	0.24	0.28	<0.20	14.2	<0.20
Boron, Total	ug/L	781	1200	<100	796	1940
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	15.3	<2.0
Calcium, Total	ug/L	5020	14800	104000	121000	462000
Chloride	mg/L	13.5	11.6	2.5	12.3	120
Chromium, Total	ug/L	29.7	<10.0	<10.0	614	<10.0
Cobalt, Total	ug/L	1.8	2.5	<1.0	215	2.1
Dissolved Organic Carbon	mg/L	<1.0	<1.0	<1.0	1.5	1.3
Fluoride	mg/L	0.91	0.87	<0.10	1.6	<0.10
Iron, Total	ug/L	5140	5800	2900	466000	12000
Lead, Total	ug/L	<10.0	<10.0	<10.0	174	<10.0
Lithium, Total	ug/L	<20.0	23.9	<20.0	448	258
Lithium, Dissolved	ug/L	NS	21.2	NS	NS	NS
Magnesium, Total	ug/L	2090	5050	31700	89800	86600
Manganese, Total	ug/L	102	139	104	8570	2620
Manganese, Dissolved	ug/L	12.4	39.3	100	14.5	2640
Molybdenum, Total	ug/L	36.2	<10.0	<10.0	198	27.3
Molybdenum, Dissolved	ug/L	31.5	<10.0	<10.0	13.4	23.3
Nitrogen, Nitrate	mg/L	<0.037	<0.037	<0.037	<0.037	<0.037
Nitrogen, Nitrite	mg/L	<0.013	<0.013	<0.013	<0.013	0.043
Phosphate as P04	mg/L	0.67	0.64	<0.15	47.8	<0.15
Potassium, Total	ug/L	4570	3800	1950	54900	9190
Radium-226	pCi/L	0.717	<1.09	0.985	28.5	0.236
Radium-228	pCi/L	<0.913	0.425	<1.09	12.1	1.16
Selenium, Total	ug/L	1.4	<1.0	<1.0	64.7	<1.0
Silica, Total	ug/L	19100	22600	20400	31300	17000
Sodium, Total	ug/L	141000	102000	5380	127000	298000
Sulfate	mg/L	6.8	6.1	237	18.3	1700
Sulfide	mg/L	<0.10	<0.10	<0.10	<0.50	<0.10
Thallium, Total	ug/L	<1.0	<1.0	<1.0	4.6	<1.0
Total Dissolved Solids	mg/L	409	290	517	69	2480
Total Organic Carbon	mg/L	<1.0	<1.0	<1.0	<4.0	1.2
Total Radium	pCi/L	0.909	0.817	1.02	40.6	1.40
pH at 25 Degrees C	Std. Units	8.7	8.1	7.2	8.4	6.9

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NC: Not collected; insufficient water to collect field parameters
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Std. Units: standard units
mg/L: milligram per liter
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1 - MW-32D2 and MW-35SS samples contained a significant amount of sediment and are not representative of GW conditions. Wells were redeveloped following the February 2022 sampling event. The wells were sampled once in April 2022 and twice in May 2022.
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Table 4
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AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-33D2	MW-34A	MW-34D1	MW-34SS	MW-34D2
Sample Date		2/9/2022	2/8/2022	2/8/2022	2/10/2022	2/9/2022
Lab ID		50308814008	50308617001	50308617002	50308922001	50308814001
Static Water Elevation (ft MSL)		414.83	476.15	466.32	444.90	417.86
Field Parameters	**Units**					
Temperature	°C	13.01	11.02	12.96	11.28	10.16
Dissolved Oxygen, Field	mg/L	0.51	0.25	0.03	1.47	1.35
Conductivity, Field	uS/cm	1082.30	521.21	654.06	551.08	599.68
ORP, Field	mV	44.2	104.6	137.8	30.0	-24.2
pH, Field	Std. Units	8.70	6.90	6.90	7.29	8.43
Analytical Data						
Alkalinity, Total as CaCO3	mg/L	510	295	292	304	322
Alkalinity,Bicarbonate (CaCO3)	mg/L	465	295	292	304	290
Alkalinity,Carbonate (CaCO3)	mg/L	44.8	<2.0	<2.0	<2.0	31.2
Aluminum, Total	ug/L	30500	1980	<200	5860	8500
Antimony, Total	ug/L	1.7	<1.0	<1.0	2.2	<1.0
Arsenic, Total	ug/L	8.0	6.3	1.2	4.3	1.6
Arsenic, Dissolved	ug/L	NS	1.5	1.5	NS	NS
Barium, Total	ug/L	345	59	171	314	126
Beryllium, Total	ug/L	1.3	0.3	<0.20	0.43	0.38
Boron, Total	ug/L	1110	<100	<100	226	952
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0
Calcium, Total	ug/L	9810	69100	96100	70000	5020
Chloride	mg/L	48.3	2.3	6.3	3.0	16.6
Chromium, Total	ug/L	57.6	<10.0	<10.0	14.4	12.8
Cobalt, Total	ug/L	15.1	5.2	<1.0	6	1.9
Dissolved Organic Carbon	mg/L	<1.0	1.5	1.0	5.7	<1.0
Fluoride	mg/L	3.4	0.16	<0.10	<0.10	1.9
Iron, Total	ug/L	34700	9680	2450	8810	4860
Lead, Total	ug/L	15.8	<10.0	<10.0	<10.0	<10.0
Lithium, Total	ug/L	64.7	<20.0	<20.0	26.3	21.2
Lithium, Dissolved	ug/L	NS	<20.0	<20.0	<20.0	NS
Magnesium, Total	ug/L	9370	25400	28500	16900	1820
Manganese, Total	ug/L	622	289	770	528	123
Manganese, Dissolved	ug/L	14.6	94.1	574	388	18.1
Molybdenum, Total	ug/L	22	<10.0	<10.0	94.6	<10.0
Molybdenum, Dissolved	ug/L	<10.0	<10.0	<10.0	97.6	<10.0
Nitrogen, Nitrate	mg/L	<0.037	<0.037	<0.037	<0.037	<0.037
Nitrogen, Nitrite	mg/L	<0.013	<0.013	<0.013	<0.013	<0.013
Phosphate as P04	mg/L	2.5	0.47	<0.15	0.56	1.1
Potassium, Total	ug/L	11100	1860	2020	6390	3990
Radium-226	pCi/L	3.25	0.472	0.448	1.4	1.31
Radium-228	pCi/L	1.77	1.34	1.06	3.32	<1.25
Selenium, Total	ug/L	5.3	1.0	<1.0	4.4	1.8
Silica, Total	ug/L	71000	27700	21600	31800	28400
Sodium, Total	ug/L	277000	13800	11200	55100	161000
Sulfate	mg/L	5.8	8.6	84.4	20.9	7.5
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	782	278	405	330	470
Total Organic Carbon	mg/L	<1.0	<1.0	<1.0	5.0	<1.0
Total Radium	pCi/L	5.02	1.81	1.51	4.72	1.67
pH at 25 Degrees C	Std. Units	8.6	7.2	7.2	7.8	9.0

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mV: millivolt
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Table 4

Summary of Monitoring Results - February 2022
RWS Type I Landfill
AES Indiana
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Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-35D1	MW-35SS [1]	MW-35D2
Sample Date		2/9/2022	2/10/2022	2/9/2022
Lab ID		50308814004	50308922002	50308814003
Static Water Elevation (ft MSL)		454.54	426.72	417.49
Field Parameters	**Units**			
Temperature	°C	14.30	NC	13.19
Dissolved Oxygen, Field	mg/L	0.03	NC	0.28
Conductivity, Field	uS/cm	1260.50	NC	711.18
ORP, Field	mV	58.8	NC	-12.6
pH, Field	Std. Units	6.72	NC	8.60
Analytical Data				
Alkalinity, Total as CaCO3	mg/L	294	326	420
Alkalinity,Bicarbonate (CaCO3)	mg/L	294	306	375
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	20	44.8
Aluminum, Total	ug/L	<200	195000	39300
Antimony, Total	ug/L	<1.0	<5.0	<1.0
Arsenic, Total	ug/L	1.8	119	12
Arsenic, Dissolved	ug/L	NS	5.2	NS
Barium, Total	ug/L	104	2010	474
Beryllium, Total	ug/L	<0.20	14.4	2.1
Boron, Total	ug/L	<100	615	1190
Cadmium, Total	ug/L	<2.0	9.8	2.3
Calcium, Total	ug/L	176000	113000	14000
Chloride	mg/L	25.0	3.1	8.4
Chromium, Total	ug/L	<10.0	380	81.5
Cobalt, Total	ug/L	<1.0	219	22.6
Dissolved Organic Carbon	mg/L	1.9	3.0	1.0
Fluoride	mg/L	0.28	<0.10	2.1
Iron, Total	ug/L	5140	558000	54900
Lead, Total	ug/L	<10.0	150	22.8
Lithium, Total	ug/L	188	498	75
Lithium, Dissolved	ug/L	NS	21.7	NS
Magnesium, Total	ug/L	51700	101000	13400
Manganese, Total	ug/L	920	9900	1100
Manganese, Dissolved	ug/L	1030	76.7	21.7
Molybdenum, Total	ug/L	30.4	164	58.0
Molybdenum, Dissolved	ug/L	32.4	90.8	21.7
Nitrogen, Nitrate	mg/L	<0.037	<0.037	<0.037
Nitrogen, Nitrite	mg/L	<0.013	<0.013	<0.013
Phosphate as P04	mg/L	1.2	24.7	3.8
Potassium, Total	ug/L	5010	37500	13200
Radium-226	pCi/L	1.37	NS	4.11
Radium-228	pCi/L	<1.2	NS	2.41
Selenium, Total	ug/L	<1.0	124	8.5
Silica, Total	ug/L	17500	91200	67900
Sodium, Total	ug/L	42500	112000	186000
Sulfate	mg/L	499	22.2	7.0
Sulfide	mg/L	<0.10	<0.50	<0.10
Thallium, Total	ug/L	<1.0	<5.0	<1.0
Total Dissolved Solids	mg/L	5080	640	500
Total Organic Carbon	mg/L	1.8	1.4	<1.0
Total Radium	pCi/L	1.85	NS	6.52
pH at 25 Degrees C	Std. Units	7.4	7.8	8.8

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NC: Not collected; insufficient water to collect field parameters
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
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Table 5
Summary of Monitoring Results - April 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-30D2	MW-31D2	MW-32I	MW-32D1	MW-32D2	MW-33I
Sample Date		4/19/2022	4/19/2022	4/20/2022	4/19/2022	4/19/2022	4/20/2022
Lab ID		50314362001	50314362002	50314368001	50314362003	50314362004	50314368002
Static Water Elevation (ft MSL)		415.37	420.90	466.26	441.83	415.61	442.55
Field Parameters	**Units**						
Temperature	°C	18.83	22.06		18.60	19.22	16.92
Dissolved Oxygen, Field	mg/L	2.12	8.53		2.29	1.68	2.29
Conductivity, Field	uS/cm	540.56	-	NC	685.71	562.22	2979.90
ORP, Field	mV	-138.0	-76.6		-86.7	-113.5	-74.5
pH, Field	Std. Units	8.68	7.97		7.01	8.11	7.01
Analytical Data							
Antimony, Total	ug/L	1.1	<1	<1	<1	1.2	<1
Arsenic, Total	ug/L	2.3	1.9	3.5	1	3.2	8.4
Barium, Total	ug/L	76.5	249	60	67.6	158	59.3
Beryllium, Total	ug/L	0.3	<0.2	0.3	<0.2	0.41	<0.2
Boron, Total	ug/L	726	1080	951	<100	884	1890
Cadmium, Total	ug/L	0.22	<0.2	0.28	0.52	0.23	<0.2
Calcium, Total	ug/L	3760	18500	194000	89200	7670	428000
Chromium, Total	ug/L	9.1	<2	6.7	3	10.8	<2
Cobalt, Total	ug/L	2.3	<1	1.9	<1	3.3	1.4
Lead, Total	ug/L	2.8	<1	4.7	<1	3.7	<1
Lithium, Total	ug/L	<20	21.7	<20	<20	21.3	142
Molybdenum, Total	ug/L	13.2	35.7	2.1	3.8	17.5	13.6
Selenium, Total	ug/L	1.5	<1	1.2	<1	2.7	<1
Thallium, Total	ug/L	<1	<1	<1	<1	<1	<1
Total Dissolved Solids	mg/L	378	454	1160	518	381	2700
pH at 25 Degrees C	Std. Units	8.8	8	6.9	7.1	8.7	6.6

Notes:
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umhos/cm: micromhos per centimeter
NA: Not Analyzed
NC: Insufficient water available to collect field readings.
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 5
Summary of Monitoring Results - April 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-33D2	MW-34A	MW-34D1	MW-34SS	MW-34D2	MW-35D1
Sample Date		4/20/2022	4/19/2022	4/19/2022	4/20/2022	4/19/2022	4/19/2022
Lab ID		50314368003	50314362005	50314362006	50314368004	50314362007	50314362008
Static Water Elevation (ft MSL)		417.36	477.89	468.01	437.90	417.01	456.44
Field Parameters	**Units**						
Temperature	°C	19.61	19.31	17.32	17.58	19.43	14.89
Dissolved Oxygen, Field	mg/L	3.05	8.99	1.77	1.95	1.40	2.87
Conductivity, Field	uS/cm	991.80	-	696.72	629.01	633.06	908.81
ORP, Field	mV	57.8	-126.3	-139.1	-131.7	-171.2	-31.3
pH, Field	Std. Units	8.37	7.09	6.97	7.32	8.43	6.86
Analytical Data							
Antimony, Total	ug/L	1.8	<1	<1	<1	<1	<1
Arsenic, Total	ug/L	1.5	1.6	1.2	1.2	<1	<1
Barium, Total	ug/L	127	41.1	150	263	103	184
Beryllium, Total	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Boron, Total	ug/L	1070	<100	<100	208	865	<100
Cadmium, Total	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium, Total	ug/L	2920	64800	103000	59600	4490	123000
Chromium, Total	ug/L	2.8	<2	<2	<2	3.3	<2
Cobalt, Total	ug/L	<1	1.4	<1	1.3	<1	1.3
Lead, Total	ug/L	<1	<1	<1	<1	<1	<1
Lithium, Total	ug/L	<20	<20	<20	<20	<20	28.8
Molybdenum, Total	ug/L	21.2	1.7	7.7	31.4	11.9	14.3
Selenium, Total	ug/L	1.2	<1	<1	<1	<1	<1
Thallium, Total	ug/L	<1	<1	<1	<1	<1	<1
Total Dissolved Solids	mg/L	660	296	480	356	409	635
pH at 25 Degrees C	Std. Units	8.3	7.6	7.3	7.6	8.6	7.4

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not Analyzed
NC: Insufficient water available to collect field readings.
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.

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

Table 5
Summary of Monitoring Results - April 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-35SS	MW-35D2
Sample Date		4/20/2022	4/19/2022
Lab ID		50314368005	50314362009
Static Water Elevation (ft MSL)		415.56	418.19
Field Parameters	**Units**		
Temperature	°C	16.79	15.88
Dissolved Oxygen, Field	mg/L	1.87	1.68
Conductivity, Field	uS/cm	986.58	522.74
ORP, Field	mV	-99.4	13.4
pH, Field	Std. Units	7.31	7.57
Analytical Data			
Antimony, Total	ug/L	<1	<1
Arsenic, Total	ug/L	2.5	2.4
Barium, Total	ug/L	237	180
Beryllium, Total	ug/L	<0.2	0.22
Boron, Total	ug/L	657	1210
Cadmium, Total	ug/L	<0.2	<0.2
Calcium, Total	ug/L	65100	7290
Chromium, Total	ug/L	3	3
Cobalt, Total	ug/L	10.5	1.3
Lead, Total	ug/L	1.2	1.7
Lithium, Total	ug/L	33	<20
Molybdenum, Total	ug/L	64.8	14.5
Selenium, Total	ug/L	1.3	<1
Thallium, Total	ug/L	<1	<1
Total Dissolved Solids	mg/L	565	329
pH at 25 Degrees C	Std. Units	7.4	8.6

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not Analyzed
NC: Insufficient water available to collect field readings.
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.

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

Table 6
Summary of Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-1	MW-1	MW-2R	MW-2R
Sample Date		5/4/2022	5/4/2022	5/8/2022	5/8/2022
Lab ID		50315597001	50315596001	50315982001	50315986001
Static Water Elevation (ft MSL)		498.31		442.51	
Field Parameters	**Units**				
Temperature	°C	13.34		13.45	
Dissolved Oxygen, Field	mg/L	5.11		1.22	
Conductivity, Field	uS/cm	852.04		3031.20	
ORP, Field	mV	86.3		-95.80	
pH, Field	Std. Units	7.16		7.11	
Analytical Data					
Alkalinity, Total as CaCO3	mg/L	NS	313	139	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	NS	313	139	NS
Alkalinity,Carbonate (CaCO3)	mg/L	NS	<2.0	<2.0	NS
Aluminum, Total	ug/L	NS	<200	<200	NS
Antimony, Total	ug/L	<1.0	NS	NS	<1.0
Arsenic, Total	ug/L	<1.0	NS	NS	16.3
Barium, Total	ug/L	48.0	NS	NS	45.2
Beryllium, Total	ug/L	<0.20	NS	NS	<0.20
Boron, Total	ug/L	142	NS	NS	1790
Cadmium, Total	ug/L	<0.20	NS	NS	<0.20
Calcium, Total	ug/L	144000	NS	NS	506000
Chloride	mg/L	4.1	4.1	58.4	72.2
Chromium, Total	ug/L	2.2	NS	NS	<2.0
Cobalt, Total	ug/L	<1.0	NS	NS	3.3
Dissolved Organic Carbon	mg/L	NS	1.0	1.7	NS
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Iron, Ferrous	mg/L	NS	<0.20	<0.20	NS
Iron, Total	ug/L	NS	<100	17200	NS
Lead, Total	ug/L	<1.0	NS	NS	<1.0
Lithium, Total	ug/L	<20.0	NS	NS	897
Magnesium, Total	ug/L	NS	39900	49400	NS
Manganese, Dissolved	ug/L	<0.20	<10.0	5740	NS
Manganese, Total	ug/L	NS	<10	5510	NS
Mercury	ug/L	NS	NS	NS	<0.20
Molybdenum, Dissolved	ug/L	NS	<10.0	NS	NS
Molybdenum, Total	ug/L	<1.0	NS	NS	10.2
Nitrogen, Nitrate	mg/L	NS	4.5	<0.10	NS
Nitrogen, Nitrite	mg/L	NS	<0.10	<0.10	NS
pH at 25 Degrees C	Std. Units	7.3	7.2	6.8	6.8
Phosphate as P04	mg/L	NS	<0.15	1.8	NS
Potassium, Total	ug/L	NS	2070	115000	NS
Radium-226	pCi/L	<0.589	NS	NS	0.455
Radium-228	pCi/L	<0.922	NS	NS	0.768
Selenium, Total	ug/L	<1.0	NS	NS	<1.0
Silica, Total	ug/L	NS	20900	16100	NS
Sodium, Total	ug/L	NS	5380	116000	NS
Sulfate	mg/L	179	179	1610	1610
Sulfide	mg/L	NS	<0.10	<0.10	NS
Thallium, Total	ug/L	<1.0	NS	NS	<1.0
Total Dissolved Solids	mg/L	618	618	2410	2420
Total Organic Carbon	mg/L	NS	<1.0	1.3	NS
Total Radium	pCi/L	<1.51	NS	NS	1.22

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
NA: Not analyzed
NC: Not collected; insufficient water to collect field parameters
NG: Not Gauged
FDNA: Field data not available
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.

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Revised on 3/1/2023

Table 6
Summary of Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-3	MW-3	MW-4C	MW-4C	MW-10	MW-10
Sample Date		5/8/2022	5/8/2022	5/8/2022	5/8/2022	5/4/2022	5/4/2022
Lab ID		50315982002	50315986002	50315982003	50315986005	50315597002	50315596002
Static Water Elevation (ft MSL)		441.25		448.75		464.38	
Field Parameters	**Units**						
Temperature	°C	15.74		14.91		15.24	
Dissolved Oxygen, Field	mg/L	0.13		0.81		1.01	
Conductivity, Field	uS/cm	2992.40		2930.70		2816.4	
ORP, Field	mV	32.60		103.30		-128.6	
pH, Field	Std. Units	7.42		6.96		7.24	
Analytical Data							
Alkalinity, Total as CaCO3	mg/L	102	NS	376	NS	NS	497
Alkalinity,Bicarbonate (CaCO3)	mg/L	102	NS	376	NS	NS	497
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	NS	<2.0	NS	NS	<2.0
Aluminum, Total	ug/L	<200	NS	<200	NS	NS	269
Antimony, Total	ug/L	NS	<1.0	NS	<1.0	<1.0	NS
Arsenic, Total	ug/L	NS	14.8	NS	<1.0	78.8	NS
Barium, Total	ug/L	NS	55.0	NS	26.6	102	NS
Beryllium, Total	ug/L	NS	<0.20	NS	<0.20	0.94	NS
Boron, Total	ug/L	NS	1140	NS	3630	27900	NS
Cadmium, Total	ug/L	NS	<0.20	NS	0.88	0.22	NS
Calcium, Total	ug/L	NS	514000	NS	583000	634000	NS
Chloride	mg/L	68.4	60.8	40.3	42.8	119	127
Chromium, Total	ug/L	NS	<2.0	NS	<2.0	5.3	NS
Cobalt, Total	ug/L	NS	1.8	NS	<1.0	3.7	NS
Dissolved Organic Carbon	mg/L	4.5	NS	2.6	NS	NS	7.8
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10	0.24	0.25
Iron, Ferrous	mg/L	<0.20	NS	<0.20	NS	NS	3.9
Iron, Total	ug/L	<100	NS	<100	NS	NS	32200
Lead, Total	ug/L	NS	<1.0	NS	<1.0	7.8	NS
Lithium, Total	ug/L	NS	1960	NS	442	47.4	NS
Magnesium, Total	ug/L	11800	NS	59300	NS	NS	106000
Manganese, Dissolved	ug/L	3980	NS	1980	NS	<0.20	3010
Manganese, Total	ug/L	4030	NS	970	NS	NS	2960
Mercury	ug/L	NS	<0.20	NS	<0.20	NS	NS
Molybdenum, Dissolved	ug/L	NS	NS	NS	NS	NS	17
Molybdenum, Total	ug/L	NS	273	NS	7.8	14.9	NS
Nitrogen, Nitrate	mg/L	<0.10	NS	<0.10	NS	NS	<0.10
Nitrogen, Nitrite	mg/L	<0.10	NS	<0.10	NS	NS	<0.10
pH at 25 Degrees C	Std. Units	7.3	7.4	7.0	7.0	6.9	6.9
Phosphate as P04	mg/L	<0.15	NS	<0.15	NS	NS	1.3
Potassium, Total	ug/L	187000	NS	41700	NS	NS	40700
Radium-226	pCi/L	NS	0.563	NS	<0.734	0.606	NS
Radium-228	pCi/L	NS	0.695	NS	0.972	0.573	NS
Selenium, Total	ug/L	NS	<1.0	NS	<1.0	1.7	NS
Silica, Total	ug/L	12000	NS	19600	NS	NS	27200
Sodium, Total	ug/L	95500	NS	79400	NS	NS	82200
Sulfate	mg/L	1540	1530	1440	1450	1650	1730
Sulfide	mg/L	<0.10	NS	<0.10	NS	NS	<0.10
Thallium, Total	ug/L	NS	<1.0	NS	<1.0	<1.0	NS
Total Dissolved Solids	mg/L	2210	2270	2340	2310	2980	2910
Total Organic Carbon	mg/L	1.4	NS	2.0	NS	NS	8.0
Total Radium	pCi/L	NS	1.26	NS	1.16	1.18	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
NC: Not collected; insufficient water to collect field parameters
NG: Not Gauged
FDNA: Field data not available
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.
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Revised on 3/1/2023

Table 6
Summary of Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-11	MW-11	MW-12	MW-12	MW-13	MW-13	MW-14
Sample Date		5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/5/2022
Lab ID		50315597003	50315596003	50315597004	50315596004	50315597005	50315596005	50315807001
Static Water Elevation (ft MSL)		485.60		493.04		469.65		420.33
Field Parameters	**Units**							
Temperature	°C	15.38		14.32		11.23		FDNA
Dissolved Oxygen, Field	mg/L	6.56		10.9		11.02		FDNA
Conductivity, Field	uS/cm	810.13		366.98		1539.5		FDNA
ORP, Field	mV	56.0		81.1		99.3		FDNA
pH, Field	Std. Units	7.18		7.14		7.45		FDNA
Analytical Data								
Alkalinity, Total as CaCO3	mg/L	NS	151	NS	147	NS	170	96
Alkalinity,Bicarbonate (CaCO3)	mg/L	NS	151	NS	147	NS	170	96
Alkalinity,Carbonate (CaCO3)	mg/L	NS	<2.0	NS	<2.0	NS	<2.0	<2.0
Aluminum, Total	ug/L	NS	<200	NS	<200	NS	<200	<200
Antimony, Total	ug/L	<1.0	NS	<1.0	NS	<1.0	NS	<1.0
Arsenic, Total	ug/L	<1.0	NS	1.1	NS	<1.0	NS	15.2
Barium, Total	ug/L	30.5	NS	27.5	NS	22.0	NS	103
Beryllium, Total	ug/L	<0.20	NS	<0.20	NS	<0.20	NS	<0.20
Boron, Total	ug/L	1080	NS	<100	NS	1560	NS	529
Cadmium, Total	ug/L	<0.20	NS	<0.20	NS	<0.20	NS	<2.0
Calcium, Total	ug/L	153000	NS	48700	NS	493000	NS	173000
Chloride	mg/L	3.6	3.6	8.5	8.6	2.4	1.9	9.0
Chromium, Total	ug/L	<2.0	NS	<2.0	NS	<2.0	NS	<10.0
Cobalt, Total	ug/L	<1.0	NS	<1.0	NS	<1.0	NS	1.1
Dissolved Organic Carbon	mg/L	NS	<1.0	NS	<1.0	NS	1.6	1.4
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10	0.53	0.5	0.11
Iron, Ferrous	mg/L	NS	<0.20	NS	<0.20	NS	<0.20	0.67
Iron, Total	ug/L	NS	158	NS	139	NS	<100	13900
Lead, Total	ug/L	<1.0	NS	1.1	NS	<1.0	NS	<10.0
Lithium, Total	ug/L	<20.0	NS	<20.0	NS	74.8	NS	<20.0
Magnesium, Total	ug/L	NS	44500	NS	20600	NS	14800	36400
Manganese, Dissolved	ug/L	<0.20	<10.0	<0.20	<10.0	<0.20	<10.0	2260
Manganese, Total	ug/L	NS	<10.0	NS	13.6	NS	12.6	2110
Mercury	ug/L	NS	NS	NS	NS	NS	NS	NS
Molybdenum, Dissolved	ug/L	NS	<10.0	NS	<10.0	NS	40.9	<10.0
Molybdenum, Total	ug/L	1.0	NS	<1.0	NS	37.8	NS	<10.0
Nitrogen, Nitrate	mg/L	NS	1.9	NS	8.7	NS	<0.10	0.22
Nitrogen, Nitrite	mg/L	NS	<0.10	NS	<0.50	NS	<0.10	<0.10
pH at 25 Degrees C	Std. Units	7.3	7.2	7.1	7.2	7.4	7.4	7.4
Phosphate as P04	mg/L	NS	0.24	NS	<0.15	NS	<0.15	5.5
Potassium, Total	ug/L	NS	<1000	NS	<1000	NS	10600	1070
Radium-226	pCi/L	<0.588	NS	<0.663	NS	<0.577	NS	0.367
Radium-228	pCi/L	<0.931	NS	0.665	NS	0.571	NS	0.875
Selenium, Total	ug/L	3.8	NS	<1.0	NS	4.6	NS	<1.0
Silica, Total	ug/L	NS	18700	NS	21400	NS	13800	15100
Sodium, Total	ug/L	NS	3850	NS	3940	NS	4480	15800
Sulfate	mg/L	413	397	14.2	14.7	1230	1040	238
Sulfide	mg/L	NS	<0.10	NS	<0.10	NS	<0.10	<0.10
Thallium, Total	ug/L	<1.0	NS	<1.0	NS	<1.0	NS	<1.0
Total Dissolved Solids	mg/L	777	745	250	235	1730	1720	743
Total Organic Carbon	mg/L	NS	<1.0	NS	<1.0	NS	1.6	1.1
Total Radium	pCi/L	<1.52	NS	<1.64	NS	0.694	NS	1.24

Notes:
ft MSL: Elevation, feet mean sea level
°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
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NG: Not Gauged
FDNA: Field data not available
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
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Table 6
Summary of Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-15	MW-16	MW-20B	MW-20I	MW-20A	MW-24	MW-32I
Sample Date		5/5/2022	5/5/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/24/2022
Lab ID		50315807002	50315807003	50315479007	50315479006	50315479005	50315469001	50317279001
Static Water Elevation (ft MSL)		425.27	439.42	413.87	413.84	413.81	440.00	NG
Field Parameters	**Units**							
Temperature	°C	15.20	13.27	13.07	14.85	15.85	18.09	NC
Dissolved Oxygen, Field	mg/L	1.06	0.25	1.20	0.42	1.17	0.17	NC
Conductivity, Field	uS/cm	1581.0	2381.6	881.37	107.19	-	1879.8	NC
ORP, Field	mV	-92.9	-117.5	65.5	15.9	-101.1	139.9	NC
pH, Field	Std. Units	7.35	7.42	6.56	7.18	7.31	7.14	NC
Analytical Data								
Alkalinity, Total as CaCO3	mg/L	377	380	439	357	215	192	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	377	380	439	357	215	192	NS
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NS
Aluminum, Total	ug/L	<200	<200	1170	333	<200	<200	NS
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	9.3	<1.0	<1.0	2	<1.0	8.7
Barium, Total	ug/L	94.8	60.7	117	62.3	32.2	38.0	86.9
Beryllium, Total	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.86
Boron, Total	ug/L	1200	2780	494	328	12100	688	897
Cadmium, Total	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.48
Calcium, Total	ug/L	257000	351000	172000	119000	355000	214000	222000
Chloride	mg/L	73.3	77.2	14.5	7.8	59.1	65.5	NS
Chromium, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	20.4
Cobalt, Total	ug/L	<1.0	<1.0	<1.0	1.7	<1.0	1.4	4.7
Dissolved Organic Carbon	mg/L	1.4	2.1	1.0	1.3	1.6	<1.0	NS
Fluoride	mg/L	0.13	0.13	<0.10	0.12	0.1	<0.10	NS
Iron, Ferrous	mg/L	0.96	<0.20	<0.20	<0.20	1	<0.20	NS
Iron, Total	ug/L	2220	11800	1230	550	8010	<100	NS
Lead, Total	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	14.4
Lithium, Total	ug/L	626	1780	<20.0	<20.0	<20.0	1150	<20.0
Magnesium, Total	ug/L	42000	23800	24300	25700	30700	25200	NS
Manganese, Dissolved	ug/L	452	3310	<10.0	1410	1290	796	NS
Manganese, Total	ug/L	424	3490	288	1840	1350	724	NS
Mercury	ug/L	NS	NS	NS	NS	NS	NS	<2.0
Molybdenum, Dissolved	ug/L	77.6	342	<10.0	<10.0	288	363	NS
Molybdenum, Total	ug/L	67.4	387	<10.0	<10.0	336	348	2.6
Nitrogen, Nitrate	mg/L	<0.10	<0.10	6.3	5.1	<0.10	<0.10	NS
Nitrogen, Nitrite	mg/L	<0.10	<0.10	<0.50	<0.50	<0.10	<0.10	NS
pH at 25 Degrees C	Std. Units	7.3	7.1	6.8	7.1	7.0	7.3	NS
Phosphate as P04	mg/L	0.3	1.6	<0.15	<0.15	0.31	<0.15	NS
Potassium, Total	ug/L	49300	211000	<1000	<1000	5250	150000	NS
Radium-226	pCi/L	<1.07	<1.09	<0.386	<0.721	0.309	<0.778	NS
Radium-228	pCi/L	0.842	1.32	<1.07	<1.12	<1.04	1.27	NS
Selenium, Total	ug/L	<1.0	<1.0	4.1	2.3	<1.0	<1.0	1.1
Silica, Total	ug/L	18700	10700	16400	12400	12400	16900	NS
Sodium, Total	ug/L	67100	124000	10500	6930	25400	62700	NS
Sulfate	mg/L	765	1180	67.7	35.5	903	923	NS
Sulfide	mg/L	<0.10	<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	<1.0
Total Dissolved Solids	mg/L	1360	2020	609	451	1500	750	NS
Total Organic Carbon	mg/L	1.4	1.4	1.0	<1.0	1.1	<1.0	NS
Total Radium	pCi/L	1.25	1.68	<1.46	<1.84	<1.36	1.27	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
NC: Not collected; insufficient water to collect field parameters
NG: Not Gauged
FDNA: Field data not available
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.
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 Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-32D2	MW-32D2	MW-33I	MW-33I	MW-33D2	MW-33D2	MW-35SS
Sample Date		5/11/2022	5/24/2022	5/10/2022	5/24/2022	5/10/2022	5/24/2022	5/11/2022
Lab ID		50316352001	50317279002	50316352002	50317279003	50316352003	50317279004	50316352004
Static Water Elevation (ft MSL)		417.56	NG	443.70	NG	417.51	NG	423.73
Field Parameters	**Units**							
Temperature	°C	20.90	17.84	19.87	19.17	20.57	19.08	19.90
Dissolved Oxygen, Field	mg/L	0.48	2.53	0.21	2.82	0.43	2.79	0.57
Conductivity, Field	uS/cm	569.82	550.01	250.89	3032.80	1101.30	1091.10	812.61
ORP, Field	mV	-139.9	-52.50	-94.50	-80.80	-106.60	-95.70	-29.40
pH, Field	Std. Units	7.94	8.05	7.10	6.92	8.44	8.35	7.01
Analytical Data								
Alkalinity, Total as CaCO3	mg/L	NS	NS	NS	NS	NS	NS	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	NS	NS	NS	NS	NS	NS	NS
Alkalinity,Carbonate (CaCO3)	mg/L	NS	NS	NS	NS	NS	NS	NS
Aluminum, Total	ug/L	4590	NS	298	NS	4220	NS	1610
Antimony, Total	ug/L	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0
Arsenic, Total	ug/L	2.4	1.5	10.3	5.2	2.4	1.8	1.2
Barium, Total	ug/L	158	106	64.0	63.5	167	127	202
Beryllium, Total	ug/L	0.25	0.21	<0.20	<0.20	0.21	<0.20	<0.20
Boron, Total	ug/L	936	889	2060	2000	1160	1080	632
Cadmium, Total	ug/L	<2.0	<0.20	<2.0	<0.20	<2.0	<0.20	<2.0
Calcium, Total	ug/L	8280	5790	449000	452000	5010	3540	55700
Chloride	mg/L	10.7	11.5	115	116	44.9	46.8	12.4
Chromium, Total	ug/L	11.5	5.6	<10.0	<2	<10.0	3.6	<10.0
Cobalt, Total	ug/L	1.6	1.6	1.2	3.1	1.3	1.4	9.9
Dissolved Organic Carbon	mg/L	NS	NS	NS	NS	NS	NS	NS
Fluoride	mg/L	2.0	1.7	0.14	0.13	4.1	3.6	0.46
Iron, Ferrous	mg/L	NS	NS	NS	NS	NS	NS	NS
Iron, Total	ug/L	4100	NS	24000	NS	3200	NS	2310
Lead, Total	ug/L	<10.0	1.8	<10.0	1.5	<10.0	2.0	<10.0
Lithium, Total	ug/L	<20.0	<20.0	200	252	28.4	26.0	35.5
Magnesium, Total	ug/L	2770	NS	97000	NS	2350	NS	12900
Manganese, Dissolved	ug/L	NS	NS	NS	NS	NS	NS	NS
Manganese, Total	ug/L	101	NS	2280	NS	68.5	NS	419
Mercury	ug/L	NS	<2.0	NS	<2.0	NS	<2.0	NS
Molybdenum, Dissolved	ug/L	NS	NS	NS	NS	NS	NS	NS
Molybdenum, Total	ug/L	19.2	9.0	12.9	17.4	30.9	14.8	28.7
Nitrogen, Nitrate	mg/L	NS	NS	NS	NS	NS	NS	NS
Nitrogen, Nitrite	mg/L	NS	NS	NS	NS	NS	NS	NS
pH at 25 Degrees C	Std. Units	7.5	8.7	8.3	7.0	8.5	8.7	8.4
Phosphate as P04	mg/L	NS	NS	NS	NS	NS	NS	NS
Potassium, Total	ug/L	3100	NS	7790	NS	3270	NS	3710
Radium-226	pCi/L	NS	NS	NS	NS	NS	NS	NS
Radium-228	pCi/L	NS	NS	NS	NS	NS	NS	NS
Selenium, Total	ug/L	1.5	<1.0	<1.0	<1.0	1.2	<1.0	1.5
Silica, Total	ug/L	21100	NS	19800	NS	23500	NS	17400
Sodium, Total	ug/L	130000	NS	257000	NS	279000	NS	117000
Sulfate	mg/L	11.1	6.5	1860	1820	8.1	4.3	61.9
Sulfide	mg/L	NS	NS	NS	NS	NS	NS	NS
Thallium, Total	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	395	336	2710	2770	653	648	503
Total Organic Carbon	mg/L	NS	NS	NS	NS	NS	NS	NS
Total Radium	pCi/L	NS	NS	NS	NS	NS	NS	NS

Notes:
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umhos/cm: micromhos per centimeter
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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
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.
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 Monitoring Results - May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

Well ID		MW-35SS	MW-35D2	MW-35D2
Sample Date		5/24/2022	5/11/2022	5/24/2022
Lab ID		50317279005	50316352005	50317279006
Static Water Elevation (ft MSL)		NG	419.98	NG
Field Parameters	**Units**			
Temperature	°C	19.53	18.90	19.22
Dissolved Oxygen, Field	mg/L	3.44	0.32	2.90
Conductivity, Field	uS/cm	890.15	506.39	665.68
ORP, Field	mV	-43.80	-122.60	-82.0
pH, Field	Std. Units	7.54	7.94	8.55
Analytical Data				
Alkalinity, Total as CaCO3	mg/L	NS	NS	NS
Alkalinity,Bicarbonate (CaCO3)	mg/L	NS	NS	NS
Alkalinity,Carbonate (CaCO3)	mg/L	NS	NS	NS
Aluminum, Total	ug/L	NS	1840	NS
Antimony, Total	ug/L	1.0	<1.0	<1.0
Arsenic, Total	ug/L	<1.0	2.3	1.7
Barium, Total	ug/L	170	154	139
Beryllium, Total	ug/L	<0.20	<0.20	<0.20
Boron, Total	ug/L	654	1240	1200
Cadmium, Total	ug/L	0.22	<2.0	<0.20
Calcium, Total	ug/L	61900	6930	6200
Chloride	mg/L	12.4	11.9	10.3
Chromium, Total	ug/L	2.3	<10.0	3.4
Cobalt, Total	ug/L	11.6	<1	1.1
Dissolved Organic Carbon	mg/L	NS	NS	NS
Fluoride	mg/L	0.38	2.1	2.1
Iron, Ferrous	mg/L	NS	NS	NS
Iron, Total	ug/L	NS	1540	NS
Lead, Total	ug/L	<1.0	<10.0	1.2
Lithium, Total	ug/L	36.6	<20.0	21.9
Magnesium, Total	ug/L	NS	2030	NS
Manganese, Dissolved	ug/L	NS	NS	NS
Manganese, Total	ug/L	NS	47.7	NS
Mercury	ug/L	<2.0	NS	<2.0
Molybdenum, Dissolved	ug/L	NS	NS	NS
Molybdenum, Total	ug/L	28.9	15.5	22.1
Nitrogen, Nitrate	mg/L	NS	NS	NS
Nitrogen, Nitrite	mg/L	NS	NS	NS
pH at 25 Degrees C	Std. Units	7.3	7.6	8.8
Phosphate as P04	mg/L	NS	NS	NS
Potassium, Total	ug/L	NS	1720	NS
Radium-226	pCi/L	NS	NS	NS
Radium-228	pCi/L	NS	NS	NS
Selenium, Total	ug/L	3.1	<1.0	<1.0
Silica, Total	ug/L	NS	17000	NS
Sodium, Total	ug/L	NS	114000	NS
Sulfate	mg/L	100	14.1	11.7
Sulfide	mg/L	NS	NS	NS
Thallium, Total	ug/L	<1.0	<1.0	<1.0
Total Dissolved Solids	mg/L	553	337	413
Total Organic Carbon	mg/L	NS	NS	NS
Total Radium	pCi/L	NS	NS	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
NC: Not collected; insufficient water to collect field parameters
NG: Not Gauged
FDNA: Field data not available
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
For well identifications, "B" = shallow well, "I" = intermediate well, "A" = deep well, "D1" = upper black shale/coal unit well, "SS" = sandstone unit well, and "D2" = lower black shale and coal unit well.
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 7
Groundwater Protection Standards - November 2021 and May 2022
RWS Type I Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01279

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	10	2000	4	5	100	6	4	15	40	2	100	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

ATTACHMENT A

NOVEMBER 2021

Table A-1
Gauging Summary
October 31, 2021
Petersburg Generating Station - RWS Type I Landfill
ATC Project No. 170LF0112

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	10/31/2021	9:04	30.88	528.11	497.23
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
MW-10	10/31/2021	9:33	40.69	502.38	461.69
MW-11	10/31/2021	9:50	36.67	517.51	480.84
MW-12	10/31/2021	9:56	31.87	517.64	485.77
MW-13	10/31/2021	10:02	15.66	480.97	465.31
Nature and Extent Wells					
MW-14	10/31/2021	10:10	10.23	436.46	426.23
MW-15	10/31/2021	10:14	21.81	444.11	422.30
MW-16	10/31/2021	10:18	3.26	442.78	439.52
MW-19A	10/31/2021	13:23	10.18	421.41	411.23
MW-19I	10/31/2021	13:23	10.11	421.28	411.17
MW-19B	10/31/2021	13:24	10.46	421.51	411.05
MW-22	10/31/2021	12:03	85.61	561.61	476.00
MW-23	10/31/2021	12:09	83.44	564.60	481.16
MW-24	10/31/2021	12:25	13.48	452.71	439.23
Piezometers					
LW-1A	10/31/2021	8:32	16.50	504.40	487.90
LW-1B	10/31/2021	8:34	13.60	504.40	490.80
LW-2	10/31/2021	8:44	80.87	518.90	438.03
LW-6A	10/31/2021	8:39	44.65	518.90	474.25
LW-6B	10/31/2021	8:41	DRY	518.90	NA
LW-8A	10/31/2021	8:47	63.27	524.90	461.63
LW-8B	10/31/2021	8:49	31.71	524.90	493.19
LW-18	10/31/2021	8:20	50.55	510.70	460.15
LW-28A	10/31/2021	8:52	20.99	504.40	483.41
LW-28B	10/31/2021	8:53	17.48	504.40	486.92
LB-1	10/31/2021	Not Gauged		572.85	572.85
LB-2	10/31/2021	Not Gauged		564.01	564.01
LB-3	10/31/2021	Not Gauged		559.73	559.73
LB-4	10/31/2021	Not Gauged		563.42	563.42
LB-5	10/31/2021	Not Gauged		559.42	559.42
MW-17	10/31/2021	9:29	17.68	472.33	454.65
MW-18	10/31/2021	9:24	8.08	458.27	450.19
TP-1	10/31/2021	Not Gauged		500.75	500.75
TP-2	10/31/2021	Not Gauged		501.39	501.39
TP-3	10/31/2021	Not Gauged		500.83	500.83

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

Flow Rate Calculations - November 2021
AES Indiana Petersburg Generating Station - RWS I Landfill
Petersburg, Indiana
ATC Project No. 170LF01279

PETERSBURG LF - ZONE B FIGURE 3		**RWS I LANDFILL**	
10/31/2021	Flow Rate Line	FR1	FR2
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	55
ΔL (ft)	Flow Line Length	2200	1700
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I ($\Delta H/\Delta L$)		0.018	0.032
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.17	0.31
PETERSBURG LF - ZONE A FIGURE 4			
10/31/2021	Flow Rate Line	FR1	
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric surface hydraulic head change	20	
ΔL (ft)	Flow Line Length	730	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I ($\Delta H/\Delta L$)		0.027	
n_e (porosity, dimensionless)		0.35	
v (ft/day)		0.016	

Notes

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

MAY 2022

Table A-2
Gauging Summary
May 1, 2022
Petersburg Generating Station - RWS Type I Landfill
ATC Project No. 170LF01279

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	5/1/2022	11:13	29.80	528.11	498.31
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
MW-10	5/1/2022	7:56	38.00	502.38	464.38
MW-11	5/1/2022	8:27	31.91	517.51	485.60
MW-12	5/1/2022	9:09	24.60	517.64	493.04
MW-13	5/1/2022	11:10	11.32	480.97	469.65
Nature and Extent Wells					
MW-14	5/1/2022	10:37	16.13	436.46	420.33
MW-15	5/1/2022	10:32	18.84	444.11	425.27
MW-16	5/1/2022	10:28	3.36	442.78	439.42
MW-19A	5/1/2022	13:33	7.82	421.41	413.59
MW-19I	5/1/2022	13:30	7.72	421.28	413.56
MW-19B	5/1/2022	13:32	7.70	421.51	413.81
MW-22	5/1/2022	11:21	84.40	561.61	477.21
MW-23	5/1/2022	11:30	82.45	564.60	482.15
MW-24	5/1/2022	10:56	12.71	452.71	440.00
MW-30D1	5/1/2022	8:04	DRY	502.83	NA
MW-30D2	5/1/2022	8:08	85.34	502.82	417.48
MW-31D2	5/1/2022	7:45	32.82	453.91	421.09
MW-32I	5/1/2022	8:19	49.22	516.33	467.11
MW-32D1	5/1/2022	8:21	74.03	516.22	442.19
MW-32D2	5/1/2022	8:24	98.73	516.29	417.56
MW-33I	5/1/2022	10:52	11.11	454.81	443.70
MW-33D2	5/1/2022	10:50	37.07	454.58	417.51
MW-34A	5/1/2022	8:55	19.80	498.25	478.45
MW-34D1	5/1/2022	8:51	30.56	498.82	468.26
MW-34SS	5/1/2022	8:48	47.80	498.95	451.15
MW-34D2	5/1/2022	8:46	79.13	499.31	420.18
MW-35D1	5/1/2022	11:08	13.81	470.09	456.28
MW-35SS	5/1/2022	11:06	46.43	470.16	423.73
MW-35D2	5/1/2022	11:04	50.56	470.54	419.98
Piezometers					
LW-1A	5/1/2022	9:02	12.00	504.40	492.40
LW-1B	5/1/2022	9:04	12.45	504.40	491.95
LW-2	5/1/2022	8:33	80.52	518.90	438.38
LW-6A	5/1/2022	8:30	41.36	518.90	477.54
LW-6B	5/1/2022	8:32	DRY	518.90	NA
LW-8A	5/1/2022	8:36	62.98	524.90	461.92
LW-8B	5/1/2022	8:38	31.83	524.90	493.07
LW-18	5/1/2022	8:15	49.01	510.70	461.69
LW-28A	5/1/2022	8:42	17.86	504.40	486.54
LW-28B	5/1/2022	8:43	16.23	504.40	488.17
LB-1	5/1/2022	12:25	92.28	572.85	480.57
LB-2	5/1/2022	12:30	DRY	564.01	NA
LB-3	5/1/2022	12:34	81.05	559.73	478.68
LB-4	5/1/2022	12:37	85.32	563.42	478.10
LB-5	5/1/2022	12:39	79.25	559.42	480.17
MW-17	5/1/2022	7:49	14.97	472.33	457.36
MW-18	5/1/2022	7:52	5.64	458.27	452.63
TP-1	5/1/2022	8:02	37.15	500.75	463.60
TP-2	5/1/2022	8:00	37.42	501.39	463.97
TP-3	5/1/2022	7:58	36.96	500.83	463.87

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NA = Not Available
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NR = Not Recorded

Flow Rate Calculations - May 2022

AES Indiana Petersburg Generating Station - RWS I Landfill
Petersburg, Indiana
ATC Project No. 170LF01279

PETERSBURG LF - ZONE B FIGURE 5		**RWS I LANDFILL**	
5/1/2022	Flow Rate Line	FR1	FR2
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	50
ΔL (ft)	Flow Line Length	2150	1600
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I ($\Delta H/\Delta L$)		0.019	0.031
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.18	0.30
PETERSBURG LF - ZONE A FIGURE 6			
5/1/2022	Flow Rate Line	FR1	
$v = Q/n_eA^1 = KI/n_e$			
ΔH (ft)	Potentiometric surface hydraulic head change	25	
ΔL (ft)	Flow Line Length	810	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I ($\Delta H/\Delta L$)		0.031	
n_e (porosity, dimensionless)		0.35	
v (ft/day)		0.019	

Notes

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

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.: 50301708

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.: 50301708

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 P2R2
Pace Project No.: 50301708

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50301708001	**MW-1**	Water	11/01/21 15:05	11/02/21 11:05

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50301708001	**MW-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	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301708001	**MW-1**					
EPA 9056	Chloride	5.1	mg/L	0.25	11/08/21 15:38	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/08/21 15:38	
EPA 9056	Sulfate	237	mg/L	2.5	11/08/21 15:57	
EPA 6010	Barium	58.4	ug/L	10.0	11/12/21 00:39	
EPA 6010	Boron	163	ug/L	100	11/12/21 00:39	
EPA 6010	Calcium	153000	ug/L	1000	11/12/21 00:39	
EPA 6010	Magnesium	38900	ug/L	1000	11/12/21 00:39	
EPA 6010	Potassium	1500	ug/L	1000	11/12/21 00:39	
EPA 6010	Silica	20800	ug/L	450	11/12/21 00:39	N2
EPA 6010	Sodium	4370	ug/L	1000	11/12/21 00:39	
EPA 903.1	Radium-226	0.276 ± 0.683 (1.18) C:NA T:90%	pCi/L		12/14/21 15:48	
EPA 904.0	Radium-228	0.535 ± 0.375 (0.727) C:72% T:99%	pCi/L		12/15/21 14:35	
Total Radium Calculation	Total Radium	0.811 ± 1.06 (1.91)	pCi/L		12/16/21 17:28	
SM 2320B	Alkalinity, Total as CaCO3	274	mg/L	2.0	11/04/21 14:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	274	mg/L	2.0	11/04/21 14:08	
SM 2540C	Total Dissolved Solids	668	mg/L	10.0	11/03/21 09:58	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/08/21 15:39	H3
EPA 353.2	Nitrogen, Nitrate	4.3	mg/L	0.10	11/02/21 14:44	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

Sample: MW-1 **Lab ID: 50301708001** Collected: 11/01/21 15:05 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	**5.1**	mg/L	0.25	1		11/08/21 15:38	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		11/08/21 15:38	16984-48-8	
Sulfate	**237**	mg/L	2.5	10		11/08/21 15:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/09/21 07:08	11/12/21 00:39	7429-90-5	
Barium	**58.4**	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:39	7440-39-3	
Boron	**163**	ug/L	100	1	11/09/21 07:08	11/12/21 00:39	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/09/21 07:08	11/12/21 00:39	7440-43-9	
Calcium	**153000**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:39	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:39	7440-47-3	
Iron	ND	ug/L	100	1	11/09/21 07:08	11/12/21 00:39	7439-89-6	
Lead	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:39	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/09/21 07:08	11/12/21 00:39	7439-93-2	
Magnesium	**38900**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:39	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:39	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/09/21 07:08	11/12/21 00:39	7439-98-7	
Potassium	**1500**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:39	7440-09-7	
Silica	**20800**	ug/L	450	1	11/09/21 07:08	11/12/21 00:39	7631-86-9	N2
Sodium	**4370**	ug/L	1000	1	11/09/21 07:08	11/12/21 00:39	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	11/09/21 13:57	11/11/21 11:31	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/09/21 13:57	11/11/21 11:31	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 09:53	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:54	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/03/21 18:25	11/04/21 09:53	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:54	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/03/21 18:25	11/05/21 03:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/03/21 18:25	11/04/21 09:53	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**274**	mg/L	2.0	1		11/04/21 14:08		
Alkalinity,Bicarbonate (CaCO3)	**274**	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	**668**	mg/L	10.0	1		11/03/21 09:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

Sample: MW-1 **Lab ID: 50301708001** Collected: 11/01/21 15:05 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	**7.1**	Std. Units	0.10	1		11/08/21 15:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 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 10:28		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**4.3**	mg/L	0.10	1		11/02/21 14:44	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/02/21 14:44	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	11/11/21 10:30	11/11/21 18:30		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/09/21 16:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/15/21 16:08		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

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: 50301708001

METHOD BLANK: 2986517 Matrix: Water
Associated Lab Samples: 50301708001

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	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

QC Batch: 648522
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50301708001

METHOD BLANK: 2988158 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

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.: 50301708

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: 50301708001

METHOD BLANK: 2987927 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

QC Batch: 648378
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301708001

METHOD BLANK: 2987188 Matrix: Water
Associated Lab Samples: 50301708001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/04/21 03:36	
Arsenic	ug/L	ND	1.0	11/04/21 03:36	
Beryllium	ug/L	ND	0.20	11/04/21 03:36	
Cobalt	ug/L	ND	1.0	11/04/21 03:36	
Selenium	ug/L	ND	1.0	11/04/21 03:36	
Thallium	ug/L	ND	1.0	11/04/21 03:36	

LABORATORY CONTROL SAMPLE: 2987189

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	80-120	
Arsenic	ug/L	40	37.6	94	80-120	
Beryllium	ug/L	40	38.4	96	80-120	
Cobalt	ug/L	40	38.0	95	80-120	
Selenium	ug/L	40	36.0	90	80-120	
Thallium	ug/L	40	37.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987190 2987191

Parameter	Units	50301756004 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	41.1	41.4	103	103	75-125	1	20	
Arsenic	ug/L	3.4	40	40	40.4	40.7	92	93	75-125	1	20	
Beryllium	ug/L	ND	40	40	36.5	37.3	91	93	75-125	2	20	
Cobalt	ug/L	ND	40	40	36.0	36.3	90	90	75-125	1	20	
Selenium	ug/L	ND	40	40	38.7	39.1	96	97	75-125	1	20	
Thallium	ug/L	ND	40	40	39.2	39.7	98	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

QC Batch: 648595
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50301708001

METHOD BLANK: 2988440 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

QC Batch: 648289
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301708001

METHOD BLANK: 2986822 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

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: 50301708001

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.: 50301708

QC Batch: 648327
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: 50301708001

METHOD BLANK: 2987012 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

QC Batch: 650426
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50301708001

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

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: 50301708001

METHOD BLANK: 2986375 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

QC Batch: 649651
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: 50301708001

METHOD BLANK: 2993530 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

QC Batch: 649369
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301708001

METHOD BLANK: 2992155 Matrix: Water
Associated Lab Samples: 50301708001

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.: 50301708

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: 50301708001

METHOD BLANK: 2997030 Matrix: Water
Associated Lab Samples: 50301708001

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	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

Sample: MW-1 **Lab ID: 50301708001** Collected: 11/01/21 15:05 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	**0.276 ± 0.683 (1.18) C:NA T:90%**	pCi/L	12/14/21 15:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.535 ± 0.375 (0.727) C:72% T:99%**	pCi/L	12/15/21 14:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.811 ± 1.06 (1.91)**	pCi/L	12/16/21 17:28	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

QC Batch: 475144
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: 50301708001

METHOD BLANK: 2295304 Matrix: Water
Associated Lab Samples: 50301708001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.608 ± 0.347 (0.624) C:71% T:96%	pCi/L	12/15/21 14:35	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

QC Batch: 475143
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: 50301708001

METHOD BLANK: 2295303 Matrix: Water
Associated Lab Samples: 50301708001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0835 ± 0.268 (0.517) C:NA T:94%	pCi/L	12/14/21 15:11	

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QUALIFIERS

Project: IDEM - CCR Sampling P2R2
Pace Project No.: 50301708

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 P2R2
Pace Project No.: 50301708

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301708001	**MW-1**	EPA 9056	648210		
50301708001	**MW-1**	EPA 3010	648522	EPA 6010	650002
50301708001	**MW-1**	EPA 3010	648486	EPA 6010	649840
50301708001	**MW-1**	EPA 200.2	648378	EPA 6020	648530
50301708001	**MW-1**	EPA 903.1	475143		
50301708001	**MW-1**	EPA 904.0	475144		
50301708001	**MW-1**	Total Radium Calculation	476561		
50301708001	**MW-1**	SM 2320B	648595		
50301708001	**MW-1**	SM 2540C	648289		
50301708001	**MW-1**	SM 4500-H+B	649153		
50301708001	**MW-1**	SM 4500-S2-D	648327		
50301708001	**MW-1**	HACH 8146	650426		
50301708001	**MW-1**	EPA 353.2	648160		
50301708001	**MW-1**	EPA 365.1	649651	EPA 365.1	649956
50301708001	**MW-1**	SM 5310C	649369		
50301708001	**MW-1**	SM 5310C	650220		

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WO# : 50301708

50301708

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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:		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 2	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11 (some bottles shared with P1R2 COC)

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)	
	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	MW-1	WT		11/1	1505				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			001
2	MW-10	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
3	MW-11	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
4	MW-12	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
5	MW-13	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (Al, Ba, B, Cd, Cr, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)		11.2.21	900		11-2	9.00	
6020 (Be, Co, As, Se, Sb, Tl),	Jay Williams	11-2-21	1605		11/2/21	1605	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:				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MTZ 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:** NO_2 NO_3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1225			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 **

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	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	

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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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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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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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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(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

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

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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7726 Moller Road
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(317)228-3100

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

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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
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	

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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	

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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	

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: 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	

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 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	

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: 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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7726 Moller Road
Indianapolis, IN 46268
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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...	Section B ...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

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	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: MTL 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:** NO_2 NO_3	✓					
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 (>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												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 15, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Mr. Mark Breting, ATC Group Services
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 Sampline P2R3
Pace Project No.: 50301796

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 Sampline P2R3
Pace Project No.: 50301796

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50301796001	**MW-14**	Water	11/02/21 16:15	11/03/21 10:35

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SAMPLE ANALYTE COUNT

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50301796001	**MW-14**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	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	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 Sampline P2R3
Pace Project No.: 50301796

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301796001	**MW-14**					
EPA 9056	Chloride	5.8	mg/L	0.25	11/05/21 22:31	
EPA 9056	Fluoride	0.10	mg/L	0.10	11/05/21 22:31	
EPA 9056	Sulfate	178	mg/L	2.5	11/05/21 22:49	
EPA 6010	Aluminum	539	ug/L	200	11/12/21 08:31	
EPA 6010	Barium	75.8	ug/L	10.0	11/12/21 08:31	
EPA 6010	Boron	585	ug/L	100	11/12/21 08:31	
EPA 6010	Calcium	168000	ug/L	1000	11/12/21 08:31	
EPA 6010	Iron	8970	ug/L	100	11/12/21 08:31	
EPA 6010	Magnesium	38000	ug/L	1000	11/12/21 08:31	
EPA 6010	Manganese	1560	ug/L	10.0	11/12/21 08:31	
EPA 6010	Potassium	1030	ug/L	1000	11/12/21 08:31	
EPA 6010	Silica	14900	ug/L	450	11/12/21 08:31	N2
EPA 6010	Sodium	7900	ug/L	1000	11/12/21 08:31	
EPA 6010	Manganese, Dissolved	1690	ug/L	10.0	11/15/21 10:51	
EPA 6020	Arsenic	8.9	ug/L	1.0	11/09/21 04:36	
EPA 6020	Cobalt	1.3	ug/L	1.0	11/09/21 04:36	
EPA 903.1	Radium-226	0.0952 ± 0.434 (0.700) C:NA T:93%	pCi/L		12/08/21 13:09	
EPA 904.0	Radium-228	0.643 ± 0.430 (0.822) C:76% T:80%	pCi/L		12/08/21 11:32	
Total Radium Calculation	Total Radium	0.738 ± 0.864 (1.52)	pCi/L		12/14/21 13:38	
SM 2320B	Alkalinity, Total as CaCO3	372	mg/L	2.0	11/05/21 12:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	372	mg/L	2.0	11/05/21 12:11	
SM 2540C	Total Dissolved Solids	669	mg/L	10.0	11/04/21 14:23	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/09/21 12:55	H3
EPA 353.2	Nitrogen, Nitrate	0.47	mg/L	0.10	11/03/21 17:52	
EPA 365.1	Phosphate as P04	1.7	mg/L	0.15	11/17/21 08:09	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	11/11/21 17:59	

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Sample: MW-14 **Lab ID: 50301796001** Collected: 11/02/21 16:15 Received: 11/03/21 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**5.8**	mg/L	0.25	1		11/05/21 22:31	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	1		11/05/21 22:31	16984-48-8	
Sulfate	**178**	mg/L	2.5	10		11/05/21 22:49	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**539**	ug/L	200	1	11/11/21 06:49	11/12/21 08:31	7429-90-5	
Barium	**75.8**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:31	7440-39-3	
Boron	**585**	ug/L	100	1	11/11/21 06:49	11/12/21 08:31	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 06:49	11/12/21 08:31	7440-43-9	
Calcium	**168000**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:31	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:31	7440-47-3	
Iron	**8970**	ug/L	100	1	11/11/21 06:49	11/12/21 08:31	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:31	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 06:49	11/12/21 08:31	7439-93-2	
Magnesium	**38000**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:31	7439-95-4	
Manganese	**1560**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:31	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:31	7439-98-7	
Potassium	**1030**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:31	7440-09-7	
Silica	**14900**	ug/L	450	1	11/11/21 06:49	11/12/21 08:31	7631-86-9	N2
Sodium	**7900**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:31	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	11/11/21 07:11	11/15/21 10:51	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 07:11	11/15/21 10:51	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	11/07/21 16:20	11/09/21 04:36	7440-36-0	
Arsenic	**8.9**	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:36	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/21 16:20	11/09/21 20:46	7440-41-7	
Cobalt	**1.3**	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:36	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:36	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**372**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Bicarbonate (CaCO3)	**372**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/05/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**669**	mg/L	10.0	1		11/04/21 14:23		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Sample: MW-14 **Lab ID: 50301796001** Collected: 11/02/21 16:15 Received: 11/03/21 10:35 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		11/09/21 12:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 17:40	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:30		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.47**	mg/L	0.10	1		11/03/21 17:52	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/03/21 17:52	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.7**	mg/L	0.15	1	11/11/21 13:30	11/17/21 08:09		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		11/11/21 17:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/16/21 06:19		

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648404
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50301796001

METHOD BLANK: 2987486 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/05/21 17:36	
Fluoride	mg/L	ND	0.10	11/05/21 17:36	
Sulfate	mg/L	ND	0.25	11/05/21 17:36	

LABORATORY CONTROL SAMPLE: 2987487

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987488 2987489

Parameter	Units	50301786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	257	125	125	389	388	106	105	80-120	0	15	
Fluoride	mg/L	0.92	0.5	0.5	1.4	1.4	95	95	80-120	0	15	
Sulfate	mg/L	ND	2.5	2.5	2.4	2.4	96	96	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 649457
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2992599 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 08:27	
Barium	ug/L	ND	10.0	11/12/21 08:27	
Boron	ug/L	ND	100	11/12/21 08:27	
Cadmium	ug/L	ND	2.0	11/12/21 08:27	
Calcium	ug/L	ND	1000	11/12/21 08:27	
Chromium	ug/L	ND	10.0	11/12/21 08:27	
Iron	ug/L	ND	100	11/12/21 08:27	
Lead	ug/L	ND	10.0	11/12/21 08:27	
Lithium	ug/L	ND	20.0	12/01/21 09:46	
Magnesium	ug/L	ND	1000	11/12/21 08:27	
Manganese	ug/L	ND	10.0	11/12/21 08:27	
Molybdenum	ug/L	ND	10.0	11/12/21 08:27	
Potassium	ug/L	ND	1000	11/12/21 08:27	
Silica	ug/L	ND	450	11/12/21 08:27	N2
Sodium	ug/L	ND	1000	11/12/21 08:27	

LABORATORY CONTROL SAMPLE: 2992600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	5020	100	80-120	
Barium	ug/L	1000	983	98	80-120	
Boron	ug/L	1000	970	97	80-120	
Cadmium	ug/L	1000	946	95	80-120	
Calcium	ug/L	5000	5030	101	80-120	
Chromium	ug/L	1000	984	98	80-120	
Iron	ug/L	2500	2610	104	80-120	
Lead	ug/L	1000	937	94	80-120	
Lithium	ug/L	1000	990	99	80-120	
Magnesium	ug/L	5000	4810	96	80-120	
Manganese	ug/L	1000	968	97	80-120	
Molybdenum	ug/L	1000	972	97	80-120	
Potassium	ug/L	5000	5000	100	80-120	
Silica	ug/L	5350	5040	94		N2
Sodium	ug/L	5000	4960	99	80-120	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992601 2992602

Parameter	Units	50302357004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	355	5000	5000	5280	5460	98	102	75-125	3	20	
Barium	ug/L	27.5	1000	1000	997	1000	97	97	75-125	0	20	
Boron	ug/L	ND	1000	1000	1020	1050	99	102	75-125	3	20	
Cadmium	ug/L	ND	1000	1000	945	968	94	97	75-125	2	20	
Calcium	ug/L	123000	5000	5000	126000	131000	70	166	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	956	977	95	97	75-125	2	20	
Iron	ug/L	966	2500	2500	3260	3320	92	94	75-125	2	20	
Lead	ug/L	ND	1000	1000	877	891	88	89	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1090	1100	108	109	75-125	1	20	
Magnesium	ug/L	58200	5000	5000	62000	65100	76	138	75-125	5	20	P6
Manganese	ug/L	220	1000	1000	1140	1180	92	96	75-125	3	20	
Molybdenum	ug/L	ND	1000	1000	978	996	97	99	75-125	2	20	
Potassium	ug/L	10900	5000	5000	16300	16600	108	113	75-125	2	20	
Silica	ug/L	10700	5350	5350	16300	16500	105	108		1		N2
Sodium	ug/L	131000	5000	5000	137000	140000	130	182	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 649214
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2991485 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/15/21 10:14	
Molybdenum, Dissolved	ug/L	ND	10.0	11/15/21 10:14	

LABORATORY CONTROL SAMPLE: 2991486

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	966	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991487 2991488

Parameter	Units	50301781003 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	0.62 mg/L	1000	1000	1550	1560	93	94	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	971	966	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648844
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2989855 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/08/21 19:45	
Arsenic	ug/L	ND	1.0	11/08/21 19:45	
Beryllium	ug/L	ND	0.20	11/08/21 19:45	
Cobalt	ug/L	ND	1.0	11/08/21 19:45	
Selenium	ug/L	ND	1.0	11/08/21 19:45	
Thallium	ug/L	ND	1.0	11/08/21 19:45	

LABORATORY CONTROL SAMPLE: 2989856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.1	105	80-120	
Arsenic	ug/L	40	37.1	93	80-120	
Beryllium	ug/L	40	38.3	96	80-120	
Cobalt	ug/L	40	39.8	99	80-120	
Selenium	ug/L	40	38.5	96	80-120	
Thallium	ug/L	40	40.2	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989857 2989858

Parameter	Units	50301920001 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	43.5	41.8	108	104	75-125	4	20	
Arsenic	ug/L	2.3	40	40	38.9	38.3	91	90	75-125	1	20	
Beryllium	ug/L	ND	40	40	41.5	39.4	104	99	75-125	5	20	
Cobalt	ug/L	ND	40	40	37.6	36.1	93	89	75-125	4	20	
Selenium	ug/L	ND	40	40	37.9	37.1	94	92	75-125	2	20	
Thallium	ug/L	ND	40	40	42.4	40.6	106	102	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648784
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2989601 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/05/21 12:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/05/21 12:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/05/21 12:11	

LABORATORY CONTROL SAMPLE: 2989602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.5	95	90-110	

SAMPLE DUPLICATE: 2989603

Parameter	Units	50301797003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	145	152	5	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	145	152	5	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2989604

Parameter	Units	50301867001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	536	526	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	536	526	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648593
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2988431 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/04/21 14:19	

LABORATORY CONTROL SAMPLE: 2988432

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

SAMPLE DUPLICATE: 2988433

Parameter	Units	50301789001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	463	461	0	10	

SAMPLE DUPLICATE: 2988434

Parameter	Units	50301789002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	362	382	5	10	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 649339
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: 50301796001

SAMPLE DUPLICATE: 2991994

Parameter	Units	50301769001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	2	H3

SAMPLE DUPLICATE: 2991995

Parameter	Units	50301769006 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: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648395
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: 50301796001

METHOD BLANK: 2987436 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/03/21 17:40	

LABORATORY CONTROL SAMPLE: 2987437

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: 2987438 2987439

Parameter	Units	50301769006 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	0.16	0.16	30	29	90-110	1	20	M3

MATRIX SPIKE SAMPLE: 2987538

Parameter	Units	50301857001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.28	0.5	0.75	93	90-110	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 650426
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50301796001

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 Sampline P2R3
Pace Project No.: 50301796

QC Batch: 648435
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: 50301796001

METHOD BLANK: 2987715 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/03/21 17:32	
Nitrogen, Nitrite	mg/L	ND	0.10	11/03/21 17:32	

LABORATORY CONTROL SAMPLE: 2987716

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: 2987717 2987718

Parameter	Units	50301773015 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	112	112	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 649835
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: 50301796001

METHOD BLANK: 2994578 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 07:59	

LABORATORY CONTROL SAMPLE: 2994579

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994580 2994581

Parameter	Units	50301769006 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	1.3			2.8	2.5				13		

MATRIX SPIKE SAMPLE: 2994582

Parameter	Units	50301797004 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 Sampline P2R3
Pace Project No.: 50301796

QC Batch: 649921
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2995096 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/11/21 17:39	

LABORATORY CONTROL SAMPLE: 2995097

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: 2995098 2995099

Parameter	Units	50301885011 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	3.6	10	10	14.3	14.1	107	105	80-120	1	20	

MATRIX SPIKE SAMPLE: 2995100

Parameter	Units	50301887001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.2	10	11.8	106	80-120	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

QC Batch: 650223
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301796001

METHOD BLANK: 2997044 Matrix: Water
Associated Lab Samples: 50301796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/16/21 01:24	

LABORATORY CONTROL SAMPLE: 2997045

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: 2997046 2997047

Parameter	Units	50301767002 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	0.46J	10	10	10.3	10.5	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997048 2997049

Parameter	Units	50301769006 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	17.3	10	10	26.3	27.0	89	96	80-120	3	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Sample: MW-14 **Lab ID: 50301796001** Collected: 11/02/21 16:15 Received: 11/03/21 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0952 ± 0.434 (0.700) C:NA T:93%**	pCi/L	12/08/21 13:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.643 ± 0.430 (0.822) C:76% T:80%**	pCi/L	12/08/21 11:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.738 ± 0.864 (1.52)**	pCi/L	12/14/21 13:38	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

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: 50301796001

METHOD BLANK: 2289226 Matrix: Water
Associated Lab Samples: 50301796001

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 Sampline P2R3
Pace Project No.: 50301796

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: 50301796001

METHOD BLANK: 2289222 Matrix: Water
Associated Lab Samples: 50301796001

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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QUALIFIERS

Project: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

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: IDEM-CCR Sampline P2R3
Pace Project No.: 50301796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301796001	**MW-14**	EPA 9056	648404		
50301796001	**MW-14**	EPA 3010	649457	EPA 6010	650020
50301796001	**MW-14**	EPA 3010	649214	EPA 6010	650434
50301796001	**MW-14**	EPA 200.2	648844	EPA 6020	649020
50301796001	**MW-14**	EPA 903.1	473877		
50301796001	**MW-14**	EPA 904.0	473879		
50301796001	**MW-14**	Total Radium Calculation	476246		
50301796001	**MW-14**	SM 2320B	648784		
50301796001	**MW-14**	SM 2540C	648593		
50301796001	**MW-14**	SM 4500-H+B	649339		
50301796001	**MW-14**	SM 4500-S2-D	648395		
50301796001	**MW-14**	HACH 8146	650426		
50301796001	**MW-14**	EPA 353.2	648435		
50301796001	**MW-14**	EPA 365.1	649835	EPA 365.1	650205
50301796001	**MW-14**	SM 5310C	649921		
50301796001	**MW-14**	SM 5310C	650223		

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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 3	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/ Line 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 + 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)	50301796
	Requested Analysis Filtered (Y/N)																	Y				Y									
1	MW-14	WT		11/2	1615				11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			001
2	MW-15	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
3	MW-16	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
4	DUP 3	WT							11	3	3	4		1				X	X	X	X	X	X	X	X	X	X	X			
5	FIELD BLANK 3	WT							9	3	2	3		1				X	X	X		X	X	X	X		X	X			
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)		11.3.24	8.15	Jay Williams	11-3-24	8.15				
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-3-24	10:35		11-3-24	1035	0.9	4	4	4
** Dissolved FF 6010 (Mo, Mn)							03			
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)

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	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	

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 11-3-21 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:** 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:** NO_2/NO_3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1145			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:

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.: 50301797

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Hayden Putt

Hayden Putt
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.: 50301797

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.: 50301797

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50301797001	**MW-10**	Water	11/02/21 10:32	11/03/21 10:35
50301797002	**MW-11**	Water	11/02/21 11:25	11/03/21 10:35
50301797003	**MW-12**	Water	11/02/21 13:50	11/03/21 10:35
50301797004	**MW-13**	Water	11/02/21 14:35	11/03/21 10:35

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50301797001	**MW-10**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JDG	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	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
50301797002	**MW-11**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JDG	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	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
50301797003	**MW-12**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JDG	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 P2R2
Pace Project No.: 50301797

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
50301797004	**MW-13**	EPA 9056	RID	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JDG	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	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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301797001	**MW-10**					
EPA 9056	Chloride	118	mg/L	2.5	11/05/21 23:45	
EPA 9056	Fluoride	0.44	mg/L	0.10	11/05/21 23:26	
EPA 9056	Sulfate	1010	mg/L	25.0	11/06/21 00:03	
EPA 6010	Aluminum	2680	ug/L	200	11/12/21 08:33	
EPA 6010	Barium	86.2	ug/L	10.0	11/12/21 08:33	
EPA 6010	Boron	24900	ug/L	100	11/12/21 08:33	
EPA 6010	Calcium	558000	ug/L	5000	11/12/21 09:21	
EPA 6010	Iron	36400	ug/L	100	11/12/21 08:33	
EPA 6010	Lithium	60.0	ug/L	20.0	11/12/21 08:33	
EPA 6010	Magnesium	117000	ug/L	1000	11/12/21 08:33	
EPA 6010	Manganese	2700	ug/L	10.0	11/12/21 08:33	
EPA 6010	Molybdenum	17.8	ug/L	10.0	11/12/21 08:33	
EPA 6010	Potassium	36600	ug/L	1000	11/12/21 08:33	
EPA 6010	Silica	30800	ug/L	450	11/12/21 08:33	N2
EPA 6010	Sodium	73500	ug/L	1000	11/12/21 08:33	
EPA 6010	Manganese, Dissolved	2730	ug/L	10.0	11/15/21 10:53	
EPA 6010	Molybdenum, Dissolved	16.8	ug/L	10.0	11/15/21 10:53	
EPA 6020	Arsenic	102	ug/L	1.0	11/09/21 04:32	
EPA 6020	Beryllium	0.42	ug/L	0.20	11/09/21 04:32	
EPA 6020	Cobalt	2.9	ug/L	1.0	11/09/21 04:32	
EPA 903.1	Radium-226	-0.0714 ± 0.326 (0.663) C:NA T:90%	pCi/L		12/07/21 14:18	
EPA 904.0	Radium-228	0.133 ± 0.465 (1.05) C:75% T:91%	pCi/L		12/07/21 17:29	
Total Radium Calculation	Total Radium	0.133 ± 0.791 (1.71)	pCi/L		12/08/21 14:55	
SM 2320B	Alkalinity, Total as CaCO3	666	mg/L	2.0	11/05/21 12:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	666	mg/L	2.0	11/05/21 12:11	
SM 2540C	Total Dissolved Solids	2510	mg/L	40.0	11/04/21 14:23	
SM 4500-H+B	pH at 25 Degrees C	6.7	Std. Units	0.10	11/09/21 12:39	H3
EPA 365.1	Phosphate as P04	1.6	mg/L	0.15	11/17/21 08:09	
SM 5310C	Total Organic Carbon	8.6	mg/L	2.0	11/10/21 17:37	
SM 5310C	Dissolved Organic Carbon	8.8	mg/L	1.0	11/16/21 06:39	
50301797002	**MW-11**					
EPA 9056	Chloride	2.9	mg/L	0.25	11/06/21 00:59	
EPA 9056	Fluoride	0.15	mg/L	0.10	11/06/21 00:59	
EPA 9056	Sulfate	415	mg/L	25.0	11/06/21 01:35	
EPA 6010	Aluminum	9120	ug/L	200	11/12/21 08:35	
EPA 6010	Barium	100	ug/L	10.0	11/12/21 08:35	
EPA 6010	Boron	1050	ug/L	100	11/12/21 08:35	
EPA 6010	Calcium	163000	ug/L	1000	11/12/21 08:35	
EPA 6010	Chromium	23.5	ug/L	10.0	11/12/21 08:35	
EPA 6010	Iron	39500	ug/L	100	11/12/21 08:35	

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

SUMMARY OF DETECTION

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301797002	**MW-11**					
EPA 6010	Lead	12.4	ug/L	10.0	11/12/21 08:35	
EPA 6010	Magnesium	46400	ug/L	1000	11/12/21 08:35	
EPA 6010	Manganese	94.6	ug/L	10.0	11/12/21 08:35	
EPA 6010	Potassium	2480	ug/L	1000	11/12/21 08:35	
EPA 6010	Silica	34200	ug/L	450	11/12/21 08:35	N2
EPA 6010	Sodium	3140	ug/L	1000	11/12/21 08:35	
EPA 6020	Arsenic	13.5	ug/L	1.0	11/09/21 04:36	
EPA 6020	Beryllium	1.0	ug/L	0.20	11/09/21 04:36	
EPA 6020	Cobalt	3.5	ug/L	1.0	11/09/21 04:36	
EPA 6020	Selenium	4.7	ug/L	1.0	11/09/21 04:36	
EPA 903.1	Radium-226	0.0791 ± 0.361 (0.582) C:NA T:95%	pCi/L		12/07/21 14:18	
EPA 904.0	Radium-228	0.528 ± 0.454 (0.909) C:75% T:89%	pCi/L		12/07/21 17:29	
Total Radium Calculation	Total Radium	0.607 ± 0.815 (1.49)	pCi/L		12/08/21 14:55	
SM 2320B	Alkalinity, Total as CaCO3	149	mg/L	2.0	11/05/21 12:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	149	mg/L	2.0	11/05/21 12:11	
SM 2540C	Total Dissolved Solids	761	mg/L	10.0	11/04/21 14:23	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/09/21 12:41	H3
EPA 353.2	Nitrogen, Nitrate	2.5	mg/L	0.10	11/03/21 17:56	
EPA 365.1	Phosphate as P04	0.87	mg/L	0.15	11/17/21 08:11	
50301797003	**MW-12**					
EPA 9056	Chloride	8.9	mg/L	0.25	11/06/21 01:54	
EPA 9056	Fluoride	0.14	mg/L	0.10	11/06/21 01:54	
EPA 9056	Sulfate	14.1	mg/L	0.25	11/06/21 01:54	
EPA 6010	Aluminum	1520	ug/L	200	11/12/21 08:37	
EPA 6010	Barium	31.6	ug/L	10.0	11/12/21 08:37	
EPA 6010	Calcium	50100	ug/L	1000	11/12/21 08:37	
EPA 6010	Iron	1390	ug/L	100	11/12/21 08:37	
EPA 6010	Magnesium	19900	ug/L	1000	11/12/21 08:37	
EPA 6010	Manganese	36.0	ug/L	10.0	11/12/21 08:37	
EPA 6010	Silica	23900	ug/L	450	11/12/21 08:37	N2
EPA 6010	Sodium	3540	ug/L	1000	11/12/21 08:37	
EPA 6020	Arsenic	1.3	ug/L	1.0	11/09/21 04:48	
EPA 903.1	Radium-226	-0.131 ± 0.300 (0.707) C:NA T:98%	pCi/L		12/07/21 14:18	
EPA 904.0	Radium-228	0.372 ± 0.499 (1.07) C:73% T:85%	pCi/L		12/07/21 17:29	

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: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50301797003	**MW-12**					
Total Radium Calculation	Total Radium	0.372 ± 0.799 (1.78)	pCi/L		12/08/21 14:55	
SM 2320B	Alkalinity, Total as CaCO3	145	mg/L	2.0	11/05/21 12:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	145	mg/L	2.0	11/05/21 12:11	
SM 2540C	Total Dissolved Solids	217	mg/L	10.0	11/04/21 14:23	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/09/21 12:51	H3
EPA 353.2	Nitrogen, Nitrate	11.0	mg/L	1.0	11/03/21 18:07	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	11/16/21 08:02	
50301797004	**MW-13**					
EPA 9056	Chloride	46.2	mg/L	2.5	11/06/21 02:49	
EPA 9056	Fluoride	0.73	mg/L	0.10	11/06/21 02:31	
EPA 9056	Sulfate	1550	mg/L	25.0	11/06/21 03:08	
EPA 6010	Barium	29.0	ug/L	10.0	11/12/21 08:43	
EPA 6010	Boron	2420	ug/L	100	11/12/21 08:43	
EPA 6010	Calcium	637000	ug/L	5000	11/12/21 09:24	
EPA 6010	Iron	441	ug/L	100	11/12/21 08:43	
EPA 6010	Lithium	492	ug/L	20.0	11/12/21 08:43	
EPA 6010	Magnesium	25600	ug/L	1000	11/12/21 08:43	
EPA 6010	Manganese	51.0	ug/L	10.0	11/12/21 08:43	
EPA 6010	Molybdenum	75.0	ug/L	10.0	11/12/21 08:43	
EPA 6010	Potassium	30000	ug/L	1000	11/12/21 08:43	
EPA 6010	Silica	15600	ug/L	450	11/12/21 08:43	N2
EPA 6010	Sodium	72400	ug/L	1000	11/12/21 08:43	
EPA 6010	Molybdenum, Dissolved	77.0	ug/L	10.0	11/15/21 11:00	
EPA 6020	Selenium	8.5	ug/L	1.0	11/09/21 04:52	
EPA 903.1	Radium-226	0.168 ± 0.465 (0.902) C:NA T:92%	pCi/L		12/07/21 14:18	
EPA 904.0	Radium-228	0.284 ± 0.449 (0.974) C:75% T:93%	pCi/L		12/07/21 17:29	
Total Radium Calculation	Total Radium	0.452 ± 0.914 (1.88)	pCi/L		12/08/21 14:55	
SM 2320B	Alkalinity, Total as CaCO3	169	mg/L	2.0	11/05/21 12:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	169	mg/L	2.0	11/05/21 12:11	
SM 2540C	Total Dissolved Solids	2440	mg/L	40.0	11/04/21 14:24	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/09/21 12:53	H3
EPA 353.2	Nitrogen, Nitrate	0.20	mg/L	0.10	11/03/21 18:09	

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

ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-10 **Lab ID: 50301797001** Collected: 11/02/21 10:32 Received: 11/03/21 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**118**	mg/L	2.5	10		11/05/21 23:45	16887-00-6	
Fluoride	**0.44**	mg/L	0.10	1		11/05/21 23:26	16984-48-8	
Sulfate	**1010**	mg/L	25.0	100		11/06/21 00:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**2680**	ug/L	200	1	11/11/21 06:49	11/12/21 08:33	7429-90-5	
Barium	**86.2**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:33	7440-39-3	
Boron	**24900**	ug/L	100	1	11/11/21 06:49	11/12/21 08:33	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 06:49	11/12/21 08:33	7440-43-9	
Calcium	**558000**	ug/L	5000	5	11/11/21 06:49	11/12/21 09:21	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:33	7440-47-3	
Iron	**36400**	ug/L	100	1	11/11/21 06:49	11/12/21 08:33	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:33	7439-92-1	
Lithium	**60.0**	ug/L	20.0	1	11/11/21 06:49	11/12/21 08:33	7439-93-2	
Magnesium	**117000**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:33	7439-95-4	
Manganese	**2700**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:33	7439-96-5	
Molybdenum	**17.8**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:33	7439-98-7	
Potassium	**36600**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:33	7440-09-7	
Silica	**30800**	ug/L	450	1	11/11/21 06:49	11/12/21 08:33	7631-86-9	N2
Sodium	**73500**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:33	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	11/11/21 07:11	11/15/21 10:53	7439-96-5	
Molybdenum, Dissolved	**16.8**	ug/L	10.0	1	11/11/21 07:11	11/15/21 10:53	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	11/08/21 09:30	11/09/21 04:32	7440-36-0	
Arsenic	**102**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:32	7440-38-2	
Beryllium	**0.42**	ug/L	0.20	1	11/08/21 09:30	11/09/21 04:32	7440-41-7	
Cobalt	**2.9**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:32	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:32	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:32	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**666**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Bicarbonate (CaCO3)	**666**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/05/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2510**	mg/L	40.0	1		11/04/21 14:23		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-10 **Lab ID: 50301797001** Collected: 11/02/21 10:32 Received: 11/03/21 10:35 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 12:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 17:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:29		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		11/03/21 18:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/03/21 18:02	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.6**	mg/L	0.15	1	11/11/21 13:30	11/17/21 08:09		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**8.6**	mg/L	2.0	2		11/10/21 17:37	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**8.8**	mg/L	1.0	1		11/16/21 06:39		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-11 **Lab ID: 50301797002** Collected: 11/02/21 11:25 Received: 11/03/21 10:35 Matrix: 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		11/06/21 00:59	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		11/06/21 00:59	16984-48-8	
Sulfate	**415**	mg/L	25.0	100		11/06/21 01:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**9120**	ug/L	200	1	11/11/21 06:49	11/12/21 08:35	7429-90-5	
Barium	**100**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:35	7440-39-3	
Boron	**1050**	ug/L	100	1	11/11/21 06:49	11/12/21 08:35	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 06:49	11/12/21 08:35	7440-43-9	
Calcium	**163000**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:35	7440-70-2	
Chromium	**23.5**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:35	7440-47-3	
Iron	**39500**	ug/L	100	1	11/11/21 06:49	11/12/21 08:35	7439-89-6	
Lead	**12.4**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:35	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 06:49	11/12/21 08:35	7439-93-2	
Magnesium	**46400**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:35	7439-95-4	
Manganese	**94.6**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:35	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:35	7439-98-7	
Potassium	**2480**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:35	7440-09-7	
Silica	**34200**	ug/L	450	1	11/11/21 06:49	11/12/21 08:35	7631-86-9	N2
Sodium	**3140**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:35	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	11/11/21 07:11	11/15/21 10:56	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 07:11	11/15/21 10:56	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:36	7440-36-0	
Arsenic	**13.5**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:36	7440-38-2	
Beryllium	**1.0**	ug/L	0.20	1	11/08/21 09:30	11/09/21 04:36	7440-41-7	
Cobalt	**3.5**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:36	7440-48-4	
Selenium	**4.7**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:36	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:36	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**149**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Bicarbonate (CaCO3)	**149**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/05/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**761**	mg/L	10.0	1		11/04/21 14:23		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-11 **Lab ID: 50301797002** Collected: 11/02/21 11:25 Received: 11/03/21 10:35 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 12:41		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 17:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:29		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		11/03/21 17:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/03/21 17:56	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.87**	mg/L	0.15	1	11/11/21 13:30	11/17/21 08:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/10/21 13:38	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/16/21 07:37		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-12 **Lab ID: 50301797003** Collected: 11/02/21 13:50 Received: 11/03/21 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**8.9**	mg/L	0.25	1		11/06/21 01:54	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		11/06/21 01:54	16984-48-8	
Sulfate	**14.1**	mg/L	0.25	1		11/06/21 01:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1520**	ug/L	200	1	11/11/21 06:49	11/12/21 08:37	7429-90-5	
Barium	**31.6**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:37	7440-39-3	
Boron	ND	ug/L	100	1	11/11/21 06:49	11/12/21 08:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 06:49	11/12/21 08:37	7440-43-9	
Calcium	**50100**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:37	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:37	7440-47-3	
Iron	**1390**	ug/L	100	1	11/11/21 06:49	11/12/21 08:37	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:37	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 06:49	11/12/21 08:37	7439-93-2	
Magnesium	**19900**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:37	7439-95-4	
Manganese	**36.0**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:37	7439-98-7	
Potassium	ND	ug/L	1000	1	11/11/21 06:49	11/12/21 08:37	7440-09-7	
Silica	**23900**	ug/L	450	1	11/11/21 06:49	11/12/21 08:37	7631-86-9	N2
Sodium	**3540**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	ND	ug/L	10.0	1	11/11/21 07:11	11/15/21 10:58	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/11/21 07:11	11/15/21 10:58	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	11/08/21 09:30	11/09/21 04:48	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:48	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/21 09:30	11/09/21 04:48	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:48	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:48	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:48	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**145**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Bicarbonate (CaCO3)	**145**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/05/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**217**	mg/L	10.0	1		11/04/21 14:23		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-12 **Lab ID: 50301797003** Collected: 11/02/21 13:50 Received: 11/03/21 10:35 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		11/09/21 12:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 17:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:29		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**11.0**	mg/L	1.0	10		11/03/21 18:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	10		11/03/21 18:07	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 13:30	11/17/21 08:12		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/10/21 14:09	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		11/16/21 08:02		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-13 **Lab ID: 50301797004** Collected: 11/02/21 14:35 Received: 11/03/21 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**46.2**	mg/L	2.5	10		11/06/21 02:49	16887-00-6	
Fluoride	**0.73**	mg/L	0.10	1		11/06/21 02:31	16984-48-8	
Sulfate	**1550**	mg/L	25.0	100		11/06/21 03:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 06:49	11/12/21 08:43	7429-90-5	
Barium	**29.0**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:43	7440-39-3	
Boron	**2420**	ug/L	100	1	11/11/21 06:49	11/12/21 08:43	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 06:49	11/12/21 08:43	7440-43-9	
Calcium	**637000**	ug/L	5000	5	11/11/21 06:49	11/12/21 09:24	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:43	7440-47-3	
Iron	**441**	ug/L	100	1	11/11/21 06:49	11/12/21 08:43	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:43	7439-92-1	
Lithium	**492**	ug/L	20.0	1	11/11/21 06:49	11/12/21 08:43	7439-93-2	
Magnesium	**25600**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:43	7439-95-4	
Manganese	**51.0**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:43	7439-96-5	
Molybdenum	**75.0**	ug/L	10.0	1	11/11/21 06:49	11/12/21 08:43	7439-98-7	
Potassium	**30000**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:43	7440-09-7	
Silica	**15600**	ug/L	450	1	11/11/21 06:49	11/12/21 08:43	7631-86-9	N2
Sodium	**72400**	ug/L	1000	1	11/11/21 06:49	11/12/21 08:43	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	11/11/21 07:11	11/15/21 11:00	7439-96-5	
Molybdenum, Dissolved	**77.0**	ug/L	10.0	1	11/11/21 07:11	11/15/21 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	11/08/21 09:30	11/09/21 04:52	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:52	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/08/21 09:30	11/09/21 04:52	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:52	7440-48-4	
Selenium	**8.5**	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:52	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/08/21 09:30	11/09/21 04:52	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**169**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Bicarbonate (CaCO3)	**169**	mg/L	2.0	1		11/05/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/05/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2440**	mg/L	40.0	1		11/04/21 14:24		

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ANALYTICAL RESULTS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-13 **Lab ID: 50301797004** Collected: 11/02/21 14:35 Received: 11/03/21 10:35 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		11/09/21 12:53		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/03/21 17:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		11/15/21 10:29		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.20**	mg/L	0.10	1		11/03/21 18:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/03/21 18:09	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	11/11/21 13:30	11/17/21 08:13		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	2.0	2		11/10/21 18:33	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/16/21 08:21		

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648404
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2987486 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/05/21 17:36	
Fluoride	mg/L	ND	0.10	11/05/21 17:36	
Sulfate	mg/L	ND	0.25	11/05/21 17:36	

LABORATORY CONTROL SAMPLE: 2987487

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	0.48	96	80-120	
Sulfate	mg/L	2.5	2.4	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987488 2987489

Parameter	Units	50301786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	257	125	125	389	388	106	105	80-120	0	15	
Fluoride	mg/L	0.92	0.5	0.5	1.4	1.4	95	95	80-120	0	15	
Sulfate	mg/L	ND	2.5	2.5	2.4	2.4	96	96	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 649457
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2992599 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/12/21 08:27	
Barium	ug/L	ND	10.0	11/12/21 08:27	
Boron	ug/L	ND	100	11/12/21 08:27	
Cadmium	ug/L	ND	2.0	11/12/21 08:27	
Calcium	ug/L	ND	1000	11/12/21 08:27	
Chromium	ug/L	ND	10.0	11/12/21 08:27	
Iron	ug/L	ND	100	11/12/21 08:27	
Lead	ug/L	ND	10.0	11/12/21 08:27	
Lithium	ug/L	ND	20.0	12/01/21 09:46	
Magnesium	ug/L	ND	1000	11/12/21 08:27	
Manganese	ug/L	ND	10.0	11/12/21 08:27	
Molybdenum	ug/L	ND	10.0	11/12/21 08:27	
Potassium	ug/L	ND	1000	11/12/21 08:27	
Silica	ug/L	ND	450	11/12/21 08:27	N2
Sodium	ug/L	ND	1000	11/12/21 08:27	

LABORATORY CONTROL SAMPLE: 2992600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	5020	100	80-120	
Barium	ug/L	1000	983	98	80-120	
Boron	ug/L	1000	970	97	80-120	
Cadmium	ug/L	1000	946	95	80-120	
Calcium	ug/L	5000	5030	101	80-120	
Chromium	ug/L	1000	984	98	80-120	
Iron	ug/L	2500	2610	104	80-120	
Lead	ug/L	1000	937	94	80-120	
Lithium	ug/L	1000	990	99	80-120	
Magnesium	ug/L	5000	4810	96	80-120	
Manganese	ug/L	1000	968	97	80-120	
Molybdenum	ug/L	1000	972	97	80-120	
Potassium	ug/L	5000	5000	100	80-120	
Silica	ug/L	5350	5040	94		N2
Sodium	ug/L	5000	4960	99	80-120	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992601 2992602

Parameter	Units	50302357004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	355	5000	5000	5280	5460	98	102	75-125	3	20	
Barium	ug/L	27.5	1000	1000	997	1000	97	97	75-125	0	20	
Boron	ug/L	ND	1000	1000	1020	1050	99	102	75-125	3	20	
Cadmium	ug/L	ND	1000	1000	945	968	94	97	75-125	2	20	
Calcium	ug/L	123000	5000	5000	126000	131000	70	166	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	956	977	95	97	75-125	2	20	
Iron	ug/L	966	2500	2500	3260	3320	92	94	75-125	2	20	
Lead	ug/L	ND	1000	1000	877	891	88	89	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1090	1100	108	109	75-125	1	20	
Magnesium	ug/L	58200	5000	5000	62000	65100	76	138	75-125	5	20	P6
Manganese	ug/L	220	1000	1000	1140	1180	92	96	75-125	3	20	
Molybdenum	ug/L	ND	1000	1000	978	996	97	99	75-125	2	20	
Potassium	ug/L	10900	5000	5000	16300	16600	108	113	75-125	2	20	
Silica	ug/L	10700	5350	5350	16300	16500	105	108		1		N2
Sodium	ug/L	131000	5000	5000	137000	140000	130	182	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 649214
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2991485 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/15/21 10:14	
Molybdenum, Dissolved	ug/L	ND	10.0	11/15/21 10:14	

LABORATORY CONTROL SAMPLE: 2991486

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	966	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991487 2991488

Parameter	Units	50301781003 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	0.62 mg/L	1000	1000	1550	1560	93	94	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	971	966	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648759
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2989480 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/09/21 01:19	
Arsenic	ug/L	ND	1.0	11/09/21 01:19	
Beryllium	ug/L	ND	0.20	11/09/21 01:19	
Cobalt	ug/L	ND	1.0	11/09/21 01:19	
Selenium	ug/L	ND	1.0	11/09/21 01:19	
Thallium	ug/L	ND	1.0	11/09/21 01:19	

LABORATORY CONTROL SAMPLE: 2989481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	39.3	98	80-120	
Beryllium	ug/L	40	38.4	96	80-120	
Cobalt	ug/L	40	39.4	98	80-120	
Selenium	ug/L	40	39.3	98	80-120	
Thallium	ug/L	40	39.8	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989482 2989483

Parameter	Units	50301891005 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	42.0	100	105	75-125	4	20	
Arsenic	ug/L	4.9	40	40	42.4	44.0	94	98	75-125	4	20	
Beryllium	ug/L	ND	40	40	39.4	40.9	98	102	75-125	4	20	
Cobalt	ug/L	0.62J	40	40	36.8	37.7	90	93	75-125	2	20	
Selenium	ug/L	ND	40	40	39.3	41.0	98	102	75-125	4	20	
Thallium	ug/L	ND	40	40	39.8	41.2	99	103	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648784 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2989601 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/05/21 12:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/05/21 12:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/05/21 12:11	

LABORATORY CONTROL SAMPLE: 2989602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.5	95	90-110	

SAMPLE DUPLICATE: 2989603

Parameter	Units	50301797003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	145	152	5	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	145	152	5	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2989604

Parameter	Units	50301867001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	536	526	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	536	526	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648593 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2988431 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/04/21 14:19	

LABORATORY CONTROL SAMPLE: 2988432

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

SAMPLE DUPLICATE: 2988433

Parameter	Units	50301789001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	463	461	0	10	

SAMPLE DUPLICATE: 2988434

Parameter	Units	50301789002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	362	382	5	10	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 649339
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: 50301797001, 50301797002, 50301797003, 50301797004

SAMPLE DUPLICATE: 2991994

Parameter	Units	50301769001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	2	H3

SAMPLE DUPLICATE: 2991995

Parameter	Units	50301769006 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: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648329
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: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2987019 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/03/21 17:05	

LABORATORY CONTROL SAMPLE: 2987020

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: 2987021 2987022

Parameter	Units	50301756004 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	0.37	0.39	74	78	90-110	5	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2987023 2987024

Parameter	Units	50301767002 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	0.35	0.35	71	70	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 650426 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

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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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 648435
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: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2987715 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/03/21 17:32	
Nitrogen, Nitrite	mg/L	ND	0.10	11/03/21 17:32	

LABORATORY CONTROL SAMPLE: 2987716

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: 2987717 2987718

Parameter	Units	50301773015 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	112	112	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 649835 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: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2994578 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	11/17/21 07:59	

LABORATORY CONTROL SAMPLE: 2994579

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2994580 2994581

Parameter	Units	50301769006 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	1.3			2.8	2.5				13		

MATRIX SPIKE SAMPLE: 2994582

Parameter	Units	50301797004 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 P2R2
Pace Project No.: 50301797

QC Batch: 649372 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2992173 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/10/21 04:20	

LABORATORY CONTROL SAMPLE: 2992174

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: 2992175 2992176

Parameter	Units	50301767002 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	0.55J	10	10	10.4	10.5	98	99	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992177 2992178

Parameter	Units	50301769006 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	17.2	10	10	26.0	26.3	88	91	80-120	1	20	

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QUALITY CONTROL DATA

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 650223 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2997044 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	11/16/21 01:24	

LABORATORY CONTROL SAMPLE: 2997045

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: 2997046 2997047

Parameter	Units	50301767002 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	0.46J	10	10	10.3	10.5	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2997048 2997049

Parameter	Units	50301769006 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	17.3	10	10	26.3	27.0	89	96	80-120	3	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-10 **Lab ID: 50301797001** Collected: 11/02/21 10:32 Received: 11/03/21 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0714 ± 0.326 (0.663) C:NA T:90%**	pCi/L	12/07/21 14:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.133 ± 0.465 (1.05) C:75% T:91%**	pCi/L	12/07/21 17:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.133 ± 0.791 (1.71)**	pCi/L	12/08/21 14:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-11 **Lab ID: 50301797002** Collected: 11/02/21 11:25 Received: 11/03/21 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0791 ± 0.361 (0.582) C:NA T:95%**	pCi/L	12/07/21 14:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.528 ± 0.454 (0.909) C:75% T:89%**	pCi/L	12/07/21 17:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.607 ± 0.815 (1.49)**	pCi/L	12/08/21 14:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-12 **Lab ID: 50301797003** Collected: 11/02/21 13:50 Received: 11/03/21 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.131 ± 0.300 (0.707) C:NA T:98%**	pCi/L	12/07/21 14:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.372 ± 0.499 (1.07) C:73% T:85%**	pCi/L	12/07/21 17:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.372 ± 0.799 (1.78)**	pCi/L	12/08/21 14:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Sample: MW-13 **Lab ID: 50301797004** Collected: 11/02/21 14:35 Received: 11/03/21 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.168 ± 0.465 (0.902) C:NA T:92%**	pCi/L	12/07/21 14:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.284 ± 0.449 (0.974) C:75% T:93%**	pCi/L	12/07/21 17:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.452 ± 0.914 (1.88)**	pCi/L	12/08/21 14:55	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 473873
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: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2289219 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.178 ± 0.387 (0.713) C:NA T:96%	pCi/L	12/07/21 13:51	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

QC Batch: 473876
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: 50301797001, 50301797002, 50301797003, 50301797004

METHOD BLANK: 2289221 Matrix: Water
Associated Lab Samples: 50301797001, 50301797002, 50301797003, 50301797004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.560 ± 0.330 (0.597) C:73% T:85%	pCi/L	12/07/21 11:24	

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QUALIFIERS

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

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.
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 P2R2
Pace Project No.: 50301797

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301797001	**MW-10**	EPA 9056	648404		
50301797002	**MW-11**	EPA 9056	648404		
50301797003	**MW-12**	EPA 9056	648404		
50301797004	**MW-13**	EPA 9056	648404		
50301797001	**MW-10**	EPA 3010	649457	EPA 6010	650020
50301797002	**MW-11**	EPA 3010	649457	EPA 6010	650020
50301797003	**MW-12**	EPA 3010	649457	EPA 6010	650020
50301797004	**MW-13**	EPA 3010	649457	EPA 6010	650020
50301797001	**MW-10**	EPA 3010	649214	EPA 6010	650434
50301797002	**MW-11**	EPA 3010	649214	EPA 6010	650434
50301797003	**MW-12**	EPA 3010	649214	EPA 6010	650434
50301797004	**MW-13**	EPA 3010	649214	EPA 6010	650434
50301797001	**MW-10**	EPA 200.2	648759	EPA 6020	649218
50301797002	**MW-11**	EPA 200.2	648759	EPA 6020	649218
50301797003	**MW-12**	EPA 200.2	648759	EPA 6020	649218
50301797004	**MW-13**	EPA 200.2	648759	EPA 6020	649218
50301797001	**MW-10**	EPA 903.1	473873		
50301797002	**MW-11**	EPA 903.1	473873		
50301797003	**MW-12**	EPA 903.1	473873		
50301797004	**MW-13**	EPA 903.1	473873		
50301797001	**MW-10**	EPA 904.0	473876		
50301797002	**MW-11**	EPA 904.0	473876		
50301797003	**MW-12**	EPA 904.0	473876		
50301797004	**MW-13**	EPA 904.0	473876		
50301797001	**MW-10**	Total Radium Calculation	475472		
50301797002	**MW-11**	Total Radium Calculation	475472		
50301797003	**MW-12**	Total Radium Calculation	475472		
50301797004	**MW-13**	Total Radium Calculation	475472		
50301797001	**MW-10**	SM 2320B	648784		
50301797002	**MW-11**	SM 2320B	648784		
50301797003	**MW-12**	SM 2320B	648784		
50301797004	**MW-13**	SM 2320B	648784		
50301797001	**MW-10**	SM 2540C	648593		
50301797002	**MW-11**	SM 2540C	648593		
50301797003	**MW-12**	SM 2540C	648593		
50301797004	**MW-13**	SM 2540C	648593		
50301797001	**MW-10**	SM 4500-H+B	649339		
50301797002	**MW-11**	SM 4500-H+B	649339		
50301797003	**MW-12**	SM 4500-H+B	649339		
50301797004	**MW-13**	SM 4500-H+B	649339		
50301797001	**MW-10**	SM 4500-S2-D	648329		
50301797002	**MW-11**	SM 4500-S2-D	648329		
50301797003	**MW-12**	SM 4500-S2-D	648329		
50301797004	**MW-13**	SM 4500-S2-D	648329		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM-CCR Sampling P2R2
Pace Project No.: 50301797

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50301797001	**MW-10**	HACH 8146	650426		
50301797002	**MW-11**	HACH 8146	650426		
50301797003	**MW-12**	HACH 8146	650426		
50301797004	**MW-13**	HACH 8146	650426		
50301797001	**MW-10**	EPA 353.2	648435		
50301797002	**MW-11**	EPA 353.2	648435		
50301797003	**MW-12**	EPA 353.2	648435		
50301797004	**MW-13**	EPA 353.2	648435		
50301797001	**MW-10**	EPA 365.1	649835	EPA 365.1	650205
50301797002	**MW-11**	EPA 365.1	649835	EPA 365.1	650205
50301797003	**MW-12**	EPA 365.1	649835	EPA 365.1	650205
50301797004	**MW-13**	EPA 365.1	649835	EPA 365.1	650205
50301797001	**MW-10**	SM 5310C	649372		
50301797002	**MW-11**	SM 5310C	649372		
50301797003	**MW-12**	SM 5310C	649372		
50301797004	**MW-13**	SM 5310C	649372		
50301797001	**MW-10**	SM 5310C	650223		
50301797002	**MW-11**	SM 5310C	650223		
50301797003	**MW-12**	SM 5310C	650223		
50301797004	**MW-13**	SM 5310C	650223		

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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 2	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/11 (some bottles shared with P1R2 COC)

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** (Y)	Rad-228	Rad-226	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)	50301797
1	MW-1	WT		2021 11/2	1032				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		—
2	MW-10	WT		11/2	1125				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
3	MW-11	WT		11/2	1350				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		002
4	MW-12	WT		11/2	1435				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003
5	MW-13	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		004
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			
* Metals: 6010 (Al, Ba, B, Cd, Cr, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)		11.3.21	8.15		11-3-21	8:15				
6020 (Be, Co, As, Se, Sb, Tl),	Jay Williams	11-3-21	10:35		11-3-21	1035	0.9 1.2	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)

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 11-3-21 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:** 0.9/0.9, 1.2/1.2
Temp should be above freezing to 6°C **(Initial/Corrected)**

5. **Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

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

	Yes	No
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: 1140	
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?			✓
Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Trip Blank Present?		✓	
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	

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 Profile 2 Report 3
Pace Project No.: 50302003

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

(Greensburg, PA) - Revision 1 - This report replaces the December, 08, 2021 report. This project was revised on January, 24, 2022 to correct lab IDs.

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 Profile 2 Report 3
Pace Project No.: 50302003

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 Profile 2 Report 3
Pace Project No.: 50302003

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50302003001	**MW-15**	Water	11/03/21 09:05	11/04/21 11:00
50302003002	**MW-16**	Water	11/03/21 10:35	11/04/21 11:00
50302003003	**DUP 3**	Water	11/03/21 09:05	11/04/21 11:00
50302003004	**FIELD BLANK 3**	Water	11/03/21 10:35	11/04/21 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50302003001	**MW-15**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	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	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
50302003002	**MW-16**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	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	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
50302003003	**DUP 3**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	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 Profile 2 Report 3
Pace Project No.: 50302003

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
50302003004	**FIELD BLANK 3**	EPA 9056	RID	3	PASI-I
		EPA 6010	JPK	15	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	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 3
Pace Project No.: 50302003

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302003001	**MW-15**					
EPA 9056	Chloride	89.9	mg/L	2.5	11/08/21 23:56	
EPA 9056	Sulfate	847	mg/L	25.0	11/09/21 00:15	
EPA 6010	Barium	80.8	ug/L	10.0	11/12/21 23:26	
EPA 6010	Boron	1510	ug/L	100	11/12/21 23:26	
EPA 6010	Calcium	286000	ug/L	3000	11/13/21 00:31	
EPA 6010	Iron	2170	ug/L	100	11/12/21 23:26	
EPA 6010	Lithium	972	ug/L	20.0	11/12/21 23:26	
EPA 6010	Magnesium	42300	ug/L	1000	11/12/21 23:26	
EPA 6010	Manganese	537	ug/L	10.0	11/12/21 23:26	
EPA 6010	Molybdenum	81.4	ug/L	10.0	11/12/21 23:26	
EPA 6010	Potassium	75600	ug/L	1000	11/12/21 23:26	
EPA 6010	Silica	16100	ug/L	450	11/12/21 23:26	N2
EPA 6010	Sodium	86700	ug/L	1000	11/12/21 23:26	
EPA 6010	Manganese, Dissolved	589	ug/L	10.0	11/15/21 22:58	
EPA 6010	Molybdenum, Dissolved	88.2	ug/L	10.0	11/15/21 22:58	
EPA 903.1	Radium-226	0.856 ± 0.568 (0.748) C:NA T:100%	pCi/L		12/07/21 12:19	
EPA 904.0	Radium-228	1.02 ± 0.654 (1.27) C:66% T:72%	pCi/L		12/07/21 11:28	
Total Radium Calculation	Total Radium	1.88 ± 1.22 (2.02)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	198	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	198	mg/L	2.0	11/10/21 16:22	
SM 2540C	Total Dissolved Solids	1650	mg/L	20.0	11/09/21 09:16	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/09/21 13:55	H3
EPA 353.2	Nitrogen, Nitrate	0.15	mg/L	0.10	11/04/21 17:10	
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	11/17/21 11:11	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/13/21 20:25	
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	11/16/21 21:04	
50302003002	**MW-16**					
EPA 9056	Chloride	97.9	mg/L	2.5	11/09/21 00:52	
EPA 9056	Sulfate	1130	mg/L	25.0	11/09/21 01:10	
EPA 6010	Aluminum	296	ug/L	200	11/12/21 23:28	
EPA 6010	Barium	57.8	ug/L	10.0	11/12/21 23:28	
EPA 6010	Boron	3070	ug/L	100	11/12/21 23:28	
EPA 6010	Calcium	314000	ug/L	3000	11/13/21 00:33	
EPA 6010	Iron	6730	ug/L	100	11/12/21 23:28	
EPA 6010	Lithium	2170	ug/L	20.0	11/12/21 23:28	
EPA 6010	Magnesium	18200	ug/L	1000	11/12/21 23:28	
EPA 6010	Manganese	2920	ug/L	10.0	11/12/21 23:28	
EPA 6010	Molybdenum	484	ug/L	10.0	11/12/21 23:28	
EPA 6010	Potassium	239000	ug/L	3000	11/13/21 00:33	
EPA 6010	Silica	11800	ug/L	450	11/12/21 23:28	N2

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302003002	**MW-16**					
EPA 6010	Sodium	144000	ug/L	1000	11/12/21 23:28	
EPA 6010	Manganese, Dissolved	3110	ug/L	10.0	11/15/21 23:00	
EPA 6010	Molybdenum, Dissolved	450	ug/L	10.0	11/15/21 23:00	
EPA 6020	Arsenic	6.7	ug/L	1.0	11/09/21 04:21	
EPA 903.1	Radium-226	0.709 ± 0.556 (0.774) C:NA T:97%	pCi/L		12/07/21 12:19	
EPA 904.0	Radium-228	1.94 ± 0.705 (1.06) C:60% T:79%	pCi/L		12/07/21 11:28	
Total Radium Calculation	Total Radium	2.65 ± 1.26 (1.83)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	157	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	157	mg/L	2.0	11/10/21 16:22	
SM 2540C	Total Dissolved Solids	2120	mg/L	40.0	11/09/21 09:17	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/09/21 15:07	H3
EPA 365.1	Phosphate as P04	2.3	mg/L	0.15	11/17/21 11:11	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	11/13/21 20:36	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	11/16/21 21:23	
50302003003	**DUP 3**					
EPA 9056	Chloride	88.4	mg/L	2.5	11/09/21 02:24	
EPA 9056	Sulfate	817	mg/L	25.0	11/09/21 02:42	
EPA 6010	Barium	79.8	ug/L	10.0	11/12/21 23:30	
EPA 6010	Boron	1480	ug/L	100	11/12/21 23:30	
EPA 6010	Calcium	284000	ug/L	3000	11/13/21 00:35	
EPA 6010	Iron	2150	ug/L	100	11/12/21 23:30	
EPA 6010	Lithium	945	ug/L	20.0	11/12/21 23:30	
EPA 6010	Magnesium	41200	ug/L	1000	11/12/21 23:30	
EPA 6010	Manganese	523	ug/L	10.0	11/12/21 23:30	
EPA 6010	Molybdenum	80.3	ug/L	10.0	11/12/21 23:30	
EPA 6010	Potassium	74000	ug/L	1000	11/12/21 23:30	
EPA 6010	Silica	15900	ug/L	450	11/12/21 23:30	N2
EPA 6010	Sodium	85000	ug/L	1000	11/12/21 23:30	
EPA 6010	Manganese, Dissolved	586	ug/L	10.0	11/15/21 23:02	
EPA 6010	Molybdenum, Dissolved	86.8	ug/L	10.0	11/15/21 23:02	
EPA 903.1	Radium-226	0.423 ± 0.481 (0.758) C:NA T:86%	pCi/L		12/07/21 12:19	
EPA 904.0	Radium-228	0.971 ± 0.498 (0.880) C:68% T:76%	pCi/L		12/07/21 11:28	
Total Radium Calculation	Total Radium	1.39 ± 0.979 (1.64)	pCi/L		12/08/21 15:01	

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50302003003	**DUP 3**					
SM 2320B	Alkalinity, Total as CaCO3	201	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	201	mg/L	2.0	11/10/21 16:22	
SM 2540C	Total Dissolved Solids	1610	mg/L	20.0	11/09/21 09:17	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/09/21 15:01	H3
EPA 365.1	Phosphate as P04	0.21	mg/L	0.15	11/17/21 11:12	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/13/21 20:46	
50302003004	**FIELD BLANK 3**					
EPA 903.1	Radium-226	0.0746 ± 0.485 (0.978) C:NA T:78%	pCi/L		12/07/21 12:19	
EPA 904.0	Radium-228	0.702 ± 0.556 (1.11) C:67% T:65%	pCi/L		12/07/21 11:28	
Total Radium Calculation	Total Radium	0.777 ± 1.04 (2.09)	pCi/L		12/08/21 15:01	
SM 2320B	Alkalinity, Total as CaCO3	2.9	mg/L	2.0	11/10/21 16:22	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	2.9	mg/L	2.0	11/10/21 16:22	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/09/21 15:13	H3

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(317)228-3100

ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: MW-15 **Lab ID: 50302003001** Collected: 11/03/21 09:05 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	**89.9**	mg/L	2.5	10		11/08/21 23:56	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/08/21 23:38	16984-48-8	
Sulfate	**847**	mg/L	25.0	100		11/09/21 00:15	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:26	7429-90-5	
Barium	**80.8**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:26	7440-39-3	
Boron	**1510**	ug/L	100	1	11/11/21 07:00	11/12/21 23:26	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:26	7440-43-9	
Calcium	**286000**	ug/L	3000	3	11/11/21 07:00	11/13/21 00:31	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:26	7440-47-3	
Iron	**2170**	ug/L	100	1	11/11/21 07:00	11/12/21 23:26	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:26	7439-92-1	
Lithium	**972**	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:26	7439-93-2	
Magnesium	**42300**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:26	7439-95-4	
Manganese	**537**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:26	7439-96-5	
Molybdenum	**81.4**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:26	7439-98-7	
Potassium	**75600**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:26	7440-09-7	
Silica	**16100**	ug/L	450	1	11/11/21 07:00	11/12/21 23:26	7631-86-9	N2
Sodium	**86700**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:26	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**589**	ug/L	10.0	1	11/12/21 07:03	11/15/21 22:58	7439-96-5	
Molybdenum, Dissolved	**88.2**	ug/L	10.0	1	11/12/21 07:03	11/15/21 22:58	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	11/07/21 16:20	11/08/21 19:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/07/21 16:20	11/08/21 19:04	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/21 16:20	11/08/21 19:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/07/21 16:20	11/08/21 19:04	7440-48-4	CU
Selenium	ND	ug/L	1.0	1	11/07/21 16:20	11/08/21 19:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/21 16:20	11/08/21 19:04	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**198**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**198**	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	**1650**	mg/L	20.0	1		11/09/21 09:16		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: MW-15 **Lab ID: 50302003001** Collected: 11/03/21 09:05 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	**7.3**	Std. Units	0.10	1		11/09/21 13:55		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 10:30		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.15**	mg/L	0.10	1		11/04/21 17:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:10	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.21**	mg/L	0.15	1	11/12/21 12:30	11/17/21 11:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		11/13/21 20:25	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		11/16/21 21:04		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: MW-16 **Lab ID: 50302003002** Collected: 11/03/21 10:35 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	**97.9**	mg/L	2.5	10		11/09/21 00:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/09/21 00:33	16984-48-8	
Sulfate	**1130**	mg/L	25.0	100		11/09/21 01:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**296**	ug/L	200	1	11/11/21 07:00	11/12/21 23:28	7429-90-5	
Barium	**57.8**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:28	7440-39-3	
Boron	**3070**	ug/L	100	1	11/11/21 07:00	11/12/21 23:28	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:28	7440-43-9	
Calcium	**314000**	ug/L	3000	3	11/11/21 07:00	11/13/21 00:33	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:28	7440-47-3	
Iron	**6730**	ug/L	100	1	11/11/21 07:00	11/12/21 23:28	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:28	7439-92-1	
Lithium	**2170**	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:28	7439-93-2	
Magnesium	**18200**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:28	7439-95-4	
Manganese	**2920**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:28	7439-96-5	
Molybdenum	**484**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:28	7439-98-7	
Potassium	**239000**	ug/L	3000	3	11/11/21 07:00	11/13/21 00:33	7440-09-7	
Silica	**11800**	ug/L	450	1	11/11/21 07:00	11/12/21 23:28	7631-86-9	N2
Sodium	**144000**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:28	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3110**	ug/L	10.0	1	11/12/21 07:03	11/15/21 23:00	7439-96-5	
Molybdenum, Dissolved	**450**	ug/L	10.0	1	11/12/21 07:03	11/15/21 23:00	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:21	7440-36-0	
Arsenic	**6.7**	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:21	7440-38-2	
Beryllium	ND	ug/L	0.40	2	11/07/21 16:20	11/09/21 20:51	7440-41-7	D3
Cobalt	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:21	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:21	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**157**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**157**	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	**2120**	mg/L	40.0	1		11/09/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: MW-16 **Lab ID: 50302003002** Collected: 11/03/21 10:35 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	**7.2**	Std. Units	0.10	1		11/09/21 15:07		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 17:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:22	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**2.3**	mg/L	0.15	1	11/12/21 12:30	11/17/21 11:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		11/13/21 20:36	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		11/16/21 21:23		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: DUP 3 **Lab ID: 50302003003** Collected: 11/03/21 09:05 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	**88.4**	mg/L	2.5	10		11/09/21 02:24	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/09/21 02:05	16984-48-8	
Sulfate	**817**	mg/L	25.0	100		11/09/21 02:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:30	7429-90-5	
Barium	**79.8**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:30	7440-39-3	
Boron	**1480**	ug/L	100	1	11/11/21 07:00	11/12/21 23:30	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:30	7440-43-9	
Calcium	**284000**	ug/L	3000	3	11/11/21 07:00	11/13/21 00:35	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:30	7440-47-3	
Iron	**2150**	ug/L	100	1	11/11/21 07:00	11/12/21 23:30	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:30	7439-92-1	
Lithium	**945**	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:30	7439-93-2	
Magnesium	**41200**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:30	7439-95-4	
Manganese	**523**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:30	7439-96-5	
Molybdenum	**80.3**	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:30	7439-98-7	
Potassium	**74000**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:30	7440-09-7	
Silica	**15900**	ug/L	450	1	11/11/21 07:00	11/12/21 23:30	7631-86-9	N2
Sodium	**85000**	ug/L	1000	1	11/11/21 07:00	11/12/21 23:30	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**586**	ug/L	10.0	1	11/12/21 07:03	11/15/21 23:02	7439-96-5	
Molybdenum, Dissolved	**86.8**	ug/L	10.0	1	11/12/21 07:03	11/15/21 23:02	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:26	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:26	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/21 16:20	11/11/21 13:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:26	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:26	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:26	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**201**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**201**	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	**1610**	mg/L	20.0	1		11/09/21 09:17		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: DUP 3 **Lab ID: 50302003003** Collected: 11/03/21 09:05 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 15:01		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 10:30		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 17:12	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 17:12	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.21**	mg/L	0.15	1	11/12/21 12:30	11/17/21 11:12		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		11/13/21 20:46	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		11/16/21 22:09		

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: FIELD BLANK 3 **Lab ID: 50302003004** Collected: 11/03/21 10:35 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	ND	mg/L	0.25	1		11/09/21 03:01	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/09/21 03:01	16984-48-8	
Sulfate	ND	mg/L	0.25	1		11/09/21 03:01	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/11/21 07:00	11/12/21 23:32	7429-90-5	
Barium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:32	7440-39-3	
Boron	ND	ug/L	100	1	11/11/21 07:00	11/12/21 23:32	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/11/21 07:00	11/12/21 23:32	7440-43-9	
Calcium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:32	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:32	7440-47-3	
Iron	ND	ug/L	100	1	11/11/21 07:00	11/12/21 23:32	7439-89-6	
Lead	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:32	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/11/21 07:00	11/12/21 23:32	7439-93-2	
Magnesium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:32	7439-95-4	
Manganese	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:32	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/11/21 07:00	11/12/21 23:32	7439-98-7	
Potassium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:32	7440-09-7	
Silica	ND	ug/L	450	1	11/11/21 07:00	11/12/21 23:32	7631-86-9	N2
Sodium	ND	ug/L	1000	1	11/11/21 07:00	11/12/21 23:32	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	11/07/21 16:20	11/09/21 04:31	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:31	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/07/21 16:20	11/09/21 14:31	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:31	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:31	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/07/21 16:20	11/09/21 04:31	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**2.9**	mg/L	2.0	1		11/10/21 16:22		
Alkalinity,Bicarbonate (CaCO3)	**2.9**	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 09:17		PL
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 15:13		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: FIELD BLANK 3 **Lab ID: 50302003004** Collected: 11/03/21 10:35 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 10:38		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		11/04/21 17:23	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/04/21 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	11/12/21 12:30	11/17/21 11:13		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		11/13/21 20:55	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

QC Batch: 649140 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2991281 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/08/21 23:01	
Fluoride	mg/L	ND	0.10	11/08/21 23:01	
Sulfate	mg/L	ND	0.25	11/08/21 23:01	

LABORATORY CONTROL SAMPLE: 2991282

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	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2991283 2991284

Parameter	Units	50302068001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.8	1.2	1.2	4.1	4.1	109	108	80-120	0	15	
Fluoride	mg/L	0.057J	0.5	0.5	0.53	0.54	94	97	80-120	2	15	
Sulfate	mg/L	250	250	250	515	515	106	106	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

QC Batch: 649459
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2992603 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 Profile 2 Report 3
Pace Project No.: 50302003

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 Profile 2 Report 3
Pace Project No.: 50302003

QC Batch: 649463
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003

METHOD BLANK: 2992617 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	11/15/21 21:44	
Molybdenum, Dissolved	ug/L	ND	10.0	11/15/21 21:44	

LABORATORY CONTROL SAMPLE: 2992618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	856	86	80-120	
Molybdenum, Dissolved	ug/L	1000	896	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992619 2992620

Parameter	Units	50302080003 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	69.4	1000	1000	1010	1030	94	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	1.5J	1000	1000	979	1000	98	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

QC Batch: 648928
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2990395 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/08/21 14:06	
Arsenic	ug/L	ND	1.0	11/08/21 14:06	
Beryllium	ug/L	ND	0.20	11/08/21 14:06	
Cobalt	ug/L	ND	1.0	11/08/21 14:06	
Selenium	ug/L	ND	1.0	11/08/21 14:06	
Thallium	ug/L	ND	1.0	11/08/21 14:06	

LABORATORY CONTROL SAMPLE: 2990396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.8	104	80-120	
Arsenic	ug/L	40	37.2	93	80-120	
Beryllium	ug/L	40	38.9	97	80-120	
Cobalt	ug/L	40	40.5	101	80-120	
Selenium	ug/L	40	37.9	95	80-120	
Thallium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2990397 2990398

Parameter	Units	50302003001 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	43.4	43.9	108	109	75-125	1	20	
Arsenic	ug/L	ND	40	40	37.5	37.5	93	93	75-125	0	20	
Beryllium	ug/L	ND	40	40	59.3	59.1	148	148	75-125	0	20	M3
Cobalt	ug/L	ND	40	40	38.5	37.9	96	94	75-125	2	20	CH
Selenium	ug/L	ND	40	40	39.4	39.7	98	99	75-125	1	20	
Thallium	ug/L	ND	40	40	41.7	42.3	104	106	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

QC Batch: 649540 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2992967 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2991620 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

QC Batch: 649358
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: 50302003001

SAMPLE DUPLICATE: 2992126

Parameter	Units	50301920011 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	1	2	H3

SAMPLE DUPLICATE: 2992127

Parameter	Units	50301937002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

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: 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2990090 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

QC Batch: 650426 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2997938 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2989098 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

QC Batch: 649951 | 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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2995330 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2997060 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

QC Batch: 650521 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50302003001, 50302003002, 50302003003

METHOD BLANK: 2998289 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003

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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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: MW-15 **Lab ID: 50302003001** Collected: 11/03/21 09:05 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	**0.856 ± 0.568 (0.748) C:NA T:100%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.654 (1.27) C:66% T:72%**	pCi/L	12/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.88 ± 1.22 (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 3
Pace Project No.: 50302003

Sample: MW-16 **Lab ID: 50302003002** Collected: 11/03/21 10:35 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	**0.709 ± 0.556 (0.774) C:NA T:97%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.94 ± 0.705 (1.06) C:60% T:79%**	pCi/L	12/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.65 ± 1.26 (1.83)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: DUP 3 **Lab ID: 50302003003** Collected: 11/03/21 09:05 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	**0.423 ± 0.481 (0.758) C:NA T:86%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.971 ± 0.498 (0.880) C:68% T:76%**	pCi/L	12/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.39 ± 0.979 (1.64)**	pCi/L	12/08/21 15:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Sample: FIELD BLANK 3 **Lab ID: 50302003004** Collected: 11/03/21 10:35 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	**0.0746 ± 0.485 (0.978) C:NA T:78%**	pCi/L	12/07/21 12:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.702 ± 0.556 (1.11) C:67% T:65%**	pCi/L	12/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.777 ± 1.04 (2.09)**	pCi/L	12/08/21 15:01	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2289206 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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: 50302003001, 50302003002, 50302003003, 50302003004

METHOD BLANK: 2289207 Matrix: Water
Associated Lab Samples: 50302003001, 50302003002, 50302003003, 50302003004

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 3
Pace Project No.: 50302003

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

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.
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.
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 3
Pace Project No.: 50302003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302003001	**MW-15**	EPA 9056	649140		
50302003002	**MW-16**	EPA 9056	649140		
50302003003	**DUP 3**	EPA 9056	649140		
50302003004	**FIELD BLANK 3**	EPA 9056	649140		
50302003001	**MW-15**	EPA 3010	649459	EPA 6010	650252
50302003002	**MW-16**	EPA 3010	649459	EPA 6010	650252
50302003003	**DUP 3**	EPA 3010	649459	EPA 6010	650252
50302003004	**FIELD BLANK 3**	EPA 3010	649459	EPA 6010	650252
50302003001	**MW-15**	EPA 3010	649463	EPA 6010	650601
50302003002	**MW-16**	EPA 3010	649463	EPA 6010	650601
50302003003	**DUP 3**	EPA 3010	649463	EPA 6010	650601
50302003001	**MW-15**	EPA 200.2	648928	EPA 6020	649019
50302003002	**MW-16**	EPA 200.2	648928	EPA 6020	649019
50302003003	**DUP 3**	EPA 200.2	648928	EPA 6020	649019
50302003004	**FIELD BLANK 3**	EPA 200.2	648928	EPA 6020	649019
50302003001	**MW-15**	EPA 903.1	473860		
50302003002	**MW-16**	EPA 903.1	473860		
50302003003	**DUP 3**	EPA 903.1	473860		
50302003004	**FIELD BLANK 3**	EPA 903.1	473860		
50302003001	**MW-15**	EPA 904.0	473862		
50302003002	**MW-16**	EPA 904.0	473862		
50302003003	**DUP 3**	EPA 904.0	473862		
50302003004	**FIELD BLANK 3**	EPA 904.0	473862		
50302003001	**MW-15**	Total Radium Calculation	475485		
50302003002	**MW-16**	Total Radium Calculation	475485		
50302003003	**DUP 3**	Total Radium Calculation	475485		
50302003004	**FIELD BLANK 3**	Total Radium Calculation	475485		
50302003001	**MW-15**	SM 2320B	649540		
50302003002	**MW-16**	SM 2320B	649540		
50302003003	**DUP 3**	SM 2320B	649540		
50302003004	**FIELD BLANK 3**	SM 2320B	649540		
50302003001	**MW-15**	SM 2540C	649250		
50302003002	**MW-16**	SM 2540C	649250		
50302003003	**DUP 3**	SM 2540C	649250		
50302003004	**FIELD BLANK 3**	SM 2540C	649250		
50302003001	**MW-15**	SM 4500-H+B	649358		
50302003002	**MW-16**	SM 4500-H+B	649381		
50302003003	**DUP 3**	SM 4500-H+B	649381		
50302003004	**FIELD BLANK 3**	SM 4500-H+B	649381		
50302003001	**MW-15**	SM 4500-S2-D	648872		
50302003002	**MW-16**	SM 4500-S2-D	648872		
50302003003	**DUP 3**	SM 4500-S2-D	648872		
50302003004	**FIELD BLANK 3**	SM 4500-S2-D	648872		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM CCR Profile 2 Report 3
Pace Project No.: 50302003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50302003001	**MW-15**	HACH 8146	650426		
50302003002	**MW-16**	HACH 8146	650426		
50302003003	**DUP 3**	HACH 8146	650426		
50302003004	**FIELD BLANK 3**	HACH 8146	650426		
50302003001	**MW-15**	EPA 353.2	648707		
50302003002	**MW-16**	EPA 353.2	648707		
50302003003	**DUP 3**	EPA 353.2	648707		
50302003004	**FIELD BLANK 3**	EPA 353.2	648707		
50302003001	**MW-15**	EPA 365.1	649951	EPA 365.1	650213
50302003002	**MW-16**	EPA 365.1	649951	EPA 365.1	650213
50302003003	**DUP 3**	EPA 365.1	649951	EPA 365.1	650213
50302003004	**FIELD BLANK 3**	EPA 365.1	649951	EPA 365.1	650213
50302003001	**MW-15**	SM 5310C	650225		
50302003002	**MW-16**	SM 5310C	650225		
50302003003	**DUP 3**	SM 5310C	650225		
50302003004	**FIELD BLANK 3**	SM 5310C	650225		
50302003001	**MW-15**	SM 5310C	650521		
50302003002	**MW-16**	SM 5310C	650521		
50302003003	**DUP 3**	SM 5310C	650521		

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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 3	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	8296/ Line 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)	50307003
	Requested Analysis Filtered (Y/N)																					Y					Y				
1	~~MW-14~~	WT							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
2	MW-15	WT		11/3	0905				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			001
3	MW-16	WT		11/3	1035				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			002
4	DUP 3	WT		11/3	0905				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			003
5	FIELD BLANK 3	WT		11/3	1035				9	3	2	3		1					X	X	X		X	X	X	X		X	X		004
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)		11/4/21	8:10	Jay Williams	11/4/21	8:10				
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-4-21	11:00		11/4/21	1100	See Sur	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:					
SIGNATURE of SAMPLER:	DATE Signed:				

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** 1

Sample Container Count

** Place a RED dot on containers that are out of conformance **

COC Line Item	WGFU	R (SBS / DI / MeOH (only) / BK / Kit)	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	✓	✓	~~DI~~
3												↓	↓			↓	↓	↓	↓	↓	↓		↓					↓	↓	↓	
4																												↓	↓	↓	
5												1				2	1	2	1		1		1								
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 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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Pace Analytical Services, LLC
7726 Moller Road
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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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

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

REPORT OF LABORATORY ANALYSIS

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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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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
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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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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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		

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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
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: 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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(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
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		

REPORT OF LABORATORY ANALYSIS

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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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7726 Moller Road
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	Section C
Required Clie...	Invoice 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: IDEM - CCR Sampling Profile 2 Report 5
Requested Due Date:	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	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-10A	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:				

Pace Analytical
WWW.PACELABS.COM

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:	
	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	8:00	
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	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)	
										Requested Analysis Filtered (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]	11.9.21	8:00	[signature]	11-9-21	8:00	
6020 (Be, Co, As, Se, Sb, Tl)	Jay Williams	11-9-21	1630	[signature]	11/9/21	1030	pg 1
** 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: 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
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

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg Landfill
Pace Project No.: 50303157

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Hayden Putt

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

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

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

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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SAMPLE SUMMARY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50303157001	**MW-31D2**	Water	11/17/21 11:34	11/17/21 16:13
50303157002	**MW-32D1**	Water	11/17/21 09:53	11/17/21 16:13
50303157003	**MW-34A**	Water	11/16/21 13:07	11/17/21 16:13
50303157004	**MW-34D1**	Water	11/16/21 13:21	11/17/21 16:13
50303157005	**MW-34D2**	Water	11/17/21 08:12	11/17/21 16:13

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SAMPLE ANALYTE COUNT

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50303157001	**MW-31D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50303157002	**MW-32D1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50303157003	**MW-34A**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50303157004	**MW-34D1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50303157005	**MW-34D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JDG	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AES Petersburg Landfill
Pace Project No.: 50303157

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	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: AES Petersburg Landfill
Pace Project No.: 50303157

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50303157001	**MW-31D2**					
EPA 9056	Chloride	9.3	mg/L	0.25	11/20/21 14:33	
EPA 9056	Fluoride	0.89	mg/L	0.10	11/20/21 14:33	
EPA 9056	Sulfate	2.5	mg/L	0.25	11/20/21 14:33	
EPA 6010	Aluminum	2580	ug/L	200	11/29/21 12:40	
EPA 6010	Barium	250	ug/L	10.0	11/29/21 12:40	
EPA 6010	Boron	1180	ug/L	100	11/29/21 12:40	
EPA 6010	Calcium	12500	ug/L	1000	11/29/21 12:40	
EPA 6010	Iron	2300	ug/L	100	11/29/21 12:40	
EPA 6010	Magnesium	3830	ug/L	1000	11/29/21 12:40	
EPA 6010	Manganese	74.6	ug/L	10.0	11/29/21 12:40	
EPA 6010	Potassium	2630	ug/L	1000	11/29/21 12:40	
EPA 6010	Silica	19200	ug/L	450	11/29/21 12:40	N2
EPA 6010	Sodium	95300	ug/L	1000	11/29/21 12:40	
EPA 6010	Manganese, Dissolved	39.1	ug/L	10.0	11/30/21 23:02	
EPA 6020	Arsenic	1.8	ug/L	1.0	11/24/21 02:06	
EPA 6020	Cobalt	1.1	ug/L	1.0	11/24/21 02:06	
EPA 6020	Arsenic, Dissolved	1.3	ug/L	1.0	11/24/21 10:09	
EPA 903.1	Radium-226	0.514 ± 0.540 (0.858) C:NA T:93%	pCi/L		12/27/21 16:47	
EPA 904.0	Radium-228	0.527 ± 0.354 (0.679) C:74% T:96%	pCi/L		12/29/21 11:03	
Total Radium Calculation	Total Radium	1.04 ± 0.894 (1.54)	pCi/L		01/06/22 08:23	
SM 2320B	Alkalinity, Total as CaCO3	245	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	234	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Carbonate (CaCO3)	11.2	mg/L	2.0	11/22/21 15:20	
SM 2540C	Total Dissolved Solids	328	mg/L	10.0	11/18/21 09:05	
SM 4500-H+B	pH at 25 Degrees C	7.9	Std. Units	0.10	11/19/21 08:44	H3
EPA 353.2	Nitrogen, Nitrate	0.11	mg/L	0.10	11/18/21 11:33	
EPA 365.1	Phosphate as P04	0.26	mg/L	0.15	12/02/21 14:18	
50303157002	**MW-32D1**					
EPA 9056	Chloride	2.7	mg/L	0.25	11/20/21 15:19	
EPA 9056	Sulfate	242	mg/L	2.5	11/20/21 15:35	
EPA 6010	Aluminum	239	ug/L	200	11/29/21 12:42	
EPA 6010	Barium	69.2	ug/L	10.0	11/29/21 12:42	
EPA 6010	Calcium	109000	ug/L	1000	11/29/21 12:42	
EPA 6010	Iron	2060	ug/L	100	11/29/21 12:42	
EPA 6010	Magnesium	32700	ug/L	1000	11/29/21 12:42	
EPA 6010	Manganese	105	ug/L	10.0	11/29/21 12:42	
EPA 6010	Potassium	1360	ug/L	1000	11/29/21 12:42	
EPA 6010	Silica	20700	ug/L	450	11/29/21 12:42	N2
EPA 6010	Sodium	4590	ug/L	1000	11/29/21 12:42	
EPA 6010	Manganese, Dissolved	116	ug/L	10.0	11/30/21 23:04	

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 Petersburg Landfill
Pace Project No.: 50303157

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50303157002	**MW-32D1**					
EPA 903.1	Radium-226	0.404 ± 0.459 (0.724) C:NA T:86%	pCi/L		12/27/21 16:47	
EPA 904.0	Radium-228	0.383 ± 0.430 (0.904) C:75% T:86%	pCi/L		12/29/21 11:43	
Total Radium Calculation	Total Radium	0.787 ± 0.889 (1.63)	pCi/L		01/06/22 08:23	
SM 2320B	Alkalinity, Total as CaCO3	185	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	185	mg/L	2.0	11/22/21 15:20	
SM 2540C	Total Dissolved Solids	518	mg/L	10.0	11/18/21 09:06	
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	11/19/21 08:43	H3
50303157003	**MW-34A**					
EPA 9056	Chloride	3.1	mg/L	0.25	11/20/21 16:09	
EPA 9056	Fluoride	0.18	mg/L	0.10	11/20/21 16:09	
EPA 9056	Sulfate	12.2	mg/L	0.25	11/20/21 16:09	
EPA 6010	Aluminum	429	ug/L	200	11/29/21 12:44	
EPA 6010	Barium	93.2	ug/L	10.0	11/29/21 12:44	
EPA 6010	Calcium	67000	ug/L	1000	11/29/21 12:44	
EPA 6010	Iron	6250	ug/L	100	11/29/21 12:44	
EPA 6010	Magnesium	24600	ug/L	1000	11/29/21 12:44	
EPA 6010	Manganese	433	ug/L	10.0	11/29/21 12:44	
EPA 6010	Potassium	1860	ug/L	1000	11/29/21 12:44	
EPA 6010	Silica	22900	ug/L	450	11/29/21 12:44	N2
EPA 6010	Sodium	16700	ug/L	1000	11/29/21 12:44	
EPA 6010	Manganese, Dissolved	423	ug/L	10.0	11/30/21 23:06	
EPA 6020	Arsenic	1.9	ug/L	1.0	11/24/21 02:15	
EPA 6020	Arsenic, Dissolved	1.2	ug/L	1.0	11/24/21 10:26	
EPA 903.1	Radium-226	0.894 ± 0.596 (0.767) C:NA T:92%	pCi/L		12/27/21 16:47	
EPA 904.0	Radium-228	0.421 ± 0.472 (0.994) C:73% T:86%	pCi/L		12/29/21 11:43	
Total Radium Calculation	Total Radium	1.32 ± 1.07 (1.76)	pCi/L		01/06/22 08:23	
SM 2320B	Alkalinity, Total as CaCO3	292	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	292	mg/L	2.0	11/22/21 15:20	
SM 2540C	Total Dissolved Solids	305	mg/L	10.0	11/18/21 09:06	
SM 4500-H+B	pH at 25 Degrees C	6.5	Std. Units	0.10	11/19/21 08:39	H3
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	12/01/21 14:06	
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	12/01/21 23:12	

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SUMMARY OF DETECTION

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50303157004	**MW-34D1**					
EPA 9056	Chloride	3.6	mg/L	0.25	11/20/21 17:37	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/20/21 17:37	
EPA 9056	Sulfate	110	mg/L	2.5	11/20/21 17:54	
EPA 6010	Barium	115	ug/L	10.0	11/29/21 12:46	
EPA 6010	Calcium	101000	ug/L	1000	11/29/21 12:46	
EPA 6010	Iron	4980	ug/L	100	11/29/21 12:46	
EPA 6010	Magnesium	31400	ug/L	1000	11/29/21 12:46	
EPA 6010	Manganese	732	ug/L	10.0	11/29/21 12:46	
EPA 6010	Potassium	1470	ug/L	1000	11/29/21 12:46	
EPA 6010	Silica	20300	ug/L	450	11/29/21 12:46	N2
EPA 6010	Sodium	5960	ug/L	1000	11/29/21 12:46	
EPA 6010	Manganese, Dissolved	776	ug/L	10.0	11/30/21 23:09	
EPA 903.1	Radium-226	0.538 ± 0.394 (0.440) C:NA T:94%	pCi/L		12/27/21 16:47	
EPA 904.0	Radium-228	0.808 ± 0.507 (0.967) C:71% T:89%	pCi/L		12/29/21 11:44	
Total Radium Calculation	Total Radium	1.35 ± 0.901 (1.41)	pCi/L		01/06/22 08:23	
SM 2320B	Alkalinity, Total as CaCO3	291	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	291	mg/L	2.0	11/22/21 15:20	
SM 2540C	Total Dissolved Solids	436	mg/L	10.0	11/18/21 09:06	
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	11/19/21 08:39	H3
50303157005	**MW-34D2**					
EPA 9056	Chloride	20.9	mg/L	2.5	11/20/21 18:47	
EPA 9056	Fluoride	2.0	mg/L	0.10	11/20/21 18:30	
EPA 9056	Sulfate	11.4	mg/L	0.25	11/20/21 18:30	
EPA 6010	Aluminum	11100	ug/L	200	11/29/21 12:48	
EPA 6010	Barium	162	ug/L	10.0	11/29/21 12:48	
EPA 6010	Boron	888	ug/L	100	11/29/21 12:48	
EPA 6010	Calcium	7300	ug/L	1000	11/29/21 12:48	
EPA 6010	Chromium	17.5	ug/L	10.0	11/29/21 12:48	
EPA 6010	Iron	6500	ug/L	100	11/29/21 12:48	
EPA 6010	Lithium	24.2	ug/L	20.0	11/29/21 12:48	
EPA 6010	Magnesium	2530	ug/L	1000	11/29/21 12:48	
EPA 6010	Manganese	179	ug/L	10.0	11/29/21 12:48	
EPA 6010	Molybdenum	12.5	ug/L	10.0	11/29/21 12:48	
EPA 6010	Potassium	4980	ug/L	1000	11/29/21 12:48	
EPA 6010	Silica	39900	ug/L	450	11/29/21 12:48	N2
EPA 6010	Sodium	152000	ug/L	1000	11/29/21 12:48	
EPA 6010	Manganese, Dissolved	34.1	ug/L	10.0	11/30/21 23:11	
EPA 6010	Molybdenum, Dissolved	11.8	ug/L	10.0	11/30/21 23:11	
EPA 6020	Arsenic	1.6	ug/L	1.0	11/24/21 02:25	
EPA 6020	Beryllium	0.60	ug/L	0.20	11/24/21 02:25	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50303157005	**MW-34D2**					
EPA 6020	Cobalt	2.8	ug/L	1.0	11/24/21 02:25	
EPA 6020	Selenium	1.1	ug/L	1.0	11/24/21 02:25	
EPA 903.1	Radium-226	0.916 ± 0.537 (0.616) C:NA T:90%	pCi/L		12/27/21 16:47	
EPA 904.0	Radium-228	0.563 ± 0.429 (0.847) C:75% T:86%	pCi/L		12/29/21 11:44	
Total Radium Calculation	Total Radium	1.48 ± 0.966 (1.46)	pCi/L		01/06/22 08:23	
SM 2320B	Alkalinity, Total as CaCO3	310	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	281	mg/L	2.0	11/22/21 15:20	
SM 2320B	Alkalinity,Carbonate (CaCO3)	29.2	mg/L	2.0	11/22/21 15:20	
SM 2540C	Total Dissolved Solids	495	mg/L	10.0	11/18/21 09:06	
SM 4500-H+B	pH at 25 Degrees C	8.6	Std. Units	0.10	11/19/21 08:40	H3
EPA 353.2	Nitrogen, Nitrate	0.31	mg/L	0.10	11/18/21 11:25	
EPA 365.1	Phosphate as P04	2.3	mg/L	0.15	12/02/21 14:21	
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	12/01/21 23:55	

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-31D2 **Lab ID: 50303157001** Collected: 11/17/21 11:34 Received: 11/17/21 16:13 Matrix: 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		11/20/21 14:33	16887-00-6	
Fluoride	**0.89**	mg/L	0.10	1		11/20/21 14:33	16984-48-8	
Sulfate	**2.5**	mg/L	0.25	1		11/20/21 14:33	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**2580**	ug/L	200	1	11/24/21 13:48	11/29/21 12:40	7429-90-5	
Barium	**250**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:40	7440-39-3	
Boron	**1180**	ug/L	100	1	11/24/21 13:48	11/29/21 12:40	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/24/21 13:48	11/29/21 12:40	7440-43-9	
Calcium	**12500**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:40	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:40	7440-47-3	
Iron	**2300**	ug/L	100	1	11/24/21 13:48	11/29/21 12:40	7439-89-6	
Lead	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:40	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/24/21 13:48	11/29/21 12:40	7439-93-2	
Magnesium	**3830**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:40	7439-95-4	
Manganese	**74.6**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:40	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:40	7439-98-7	
Potassium	**2630**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:40	7440-09-7	
Silica	**19200**	ug/L	450	1	11/24/21 13:48	11/29/21 12:40	7631-86-9	N2
Sodium	**95300**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:40	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	11/29/21 14:44	11/30/21 23:02	7439-93-2	
Manganese, Dissolved	**39.1**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:02	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:02	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:06	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:06	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/22/21 15:30	11/24/21 02:06	7440-41-7	
Cobalt	**1.1**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:06	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:06	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.3**	ug/L	1.0	1	11/21/21 20:00	11/24/21 10:09	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**245**	mg/L	2.0	1		11/22/21 15:20		
Alkalinity,Bicarbonate (CaCO3)	**234**	mg/L	2.0	1		11/22/21 15:20		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-31D2 **Lab ID: 50303157001** Collected: 11/17/21 11:34 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**11.2**	mg/L	2.0	1		11/22/21 15:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**328**	mg/L	10.0	1		11/18/21 09:05		
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		11/19/21 08:44		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/23/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/01/21 12:08		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		11/18/21 11:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/18/21 11:33	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.26**	mg/L	0.15	1	12/01/21 09:30	12/02/21 14:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/01/21 13:28	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/01/21 22:22		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-32D1 **Lab ID: 50303157002** Collected: 11/17/21 09:53 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**2.7**	mg/L	0.25	1		11/20/21 15:19	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/20/21 15:19	16984-48-8	
Sulfate	**242**	mg/L	2.5	10		11/20/21 15:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**239**	ug/L	200	1	11/24/21 13:48	11/29/21 12:42	7429-90-5	
Barium	**69.2**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:42	7440-39-3	
Boron	ND	ug/L	100	1	11/24/21 13:48	11/29/21 12:42	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/24/21 13:48	11/29/21 12:42	7440-43-9	
Calcium	**109000**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:42	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:42	7440-47-3	
Iron	**2060**	ug/L	100	1	11/24/21 13:48	11/29/21 12:42	7439-89-6	
Lead	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:42	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/24/21 13:48	11/29/21 12:42	7439-93-2	
Magnesium	**32700**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:42	7439-95-4	
Manganese	**105**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:42	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:42	7439-98-7	
Potassium	**1360**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:42	7440-09-7	
Silica	**20700**	ug/L	450	1	11/24/21 13:48	11/29/21 12:42	7631-86-9	N2
Sodium	**4590**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:42	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	11/29/21 14:44	11/30/21 23:04	7439-93-2	
Manganese, Dissolved	**116**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:04	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:04	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:10	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/22/21 15:30	11/24/21 02:10	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:10	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:10	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	11/21/21 20:00	11/24/21 10:14	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**185**	mg/L	2.0	1		11/22/21 15:20		
Alkalinity,Bicarbonate (CaCO3)	**185**	mg/L	2.0	1		11/22/21 15:20		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-32D1 **Lab ID: 50303157002** Collected: 11/17/21 09:53 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/22/21 15:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**518**	mg/L	10.0	1		11/18/21 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		11/19/21 08:43		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/23/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/01/21 12:07		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/18/21 11:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/18/21 11:29	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	12/01/21 09:30	12/02/21 14:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/01/21 13:47	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/01/21 23:02		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34A **Lab ID: 50303157003** Collected: 11/16/21 13:07 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**3.1**	mg/L	0.25	1		11/20/21 16:09	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		11/20/21 16:09	16984-48-8	
Sulfate	**12.2**	mg/L	0.25	1		11/20/21 16:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**429**	ug/L	200	1	11/24/21 13:48	11/29/21 12:44	7429-90-5	
Barium	**93.2**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:44	7440-39-3	
Boron	ND	ug/L	100	1	11/24/21 13:48	11/29/21 12:44	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/24/21 13:48	11/29/21 12:44	7440-43-9	
Calcium	**67000**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:44	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:44	7440-47-3	
Iron	**6250**	ug/L	100	1	11/24/21 13:48	11/29/21 12:44	7439-89-6	
Lead	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:44	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/24/21 13:48	11/29/21 12:44	7439-93-2	
Magnesium	**24600**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:44	7439-95-4	
Manganese	**433**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:44	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:44	7439-98-7	
Potassium	**1860**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:44	7440-09-7	
Silica	**22900**	ug/L	450	1	11/24/21 13:48	11/29/21 12:44	7631-86-9	N2
Sodium	**16700**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:44	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	11/29/21 14:44	11/30/21 23:06	7439-93-2	
Manganese, Dissolved	**423**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:06	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:06	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:15	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:15	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/22/21 15:30	11/24/21 02:15	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:15	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:15	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:15	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.2**	ug/L	1.0	1	11/21/21 20:00	11/24/21 10:26	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**292**	mg/L	2.0	1		11/22/21 15:20		
Alkalinity,Bicarbonate (CaCO3)	**292**	mg/L	2.0	1		11/22/21 15:20		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34A **Lab ID: 50303157003** Collected: 11/16/21 13:07 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/22/21 15:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**305**	mg/L	10.0	1		11/18/21 09:06		
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		11/19/21 08:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/23/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/01/21 12:05		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		11/18/21 11:20	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/18/21 11:20	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	12/01/21 09:30	12/02/21 14:19		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		12/01/21 14:06	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		12/01/21 23:12		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D1 **Lab ID: 50303157004** Collected: 11/16/21 13:21 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**3.6**	mg/L	0.25	1		11/20/21 17:37	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		11/20/21 17:37	16984-48-8	
Sulfate	**110**	mg/L	2.5	10		11/20/21 17:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	11/24/21 13:48	11/29/21 12:46	7429-90-5	
Barium	**115**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:46	7440-39-3	
Boron	ND	ug/L	100	1	11/24/21 13:48	11/29/21 12:46	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/24/21 13:48	11/29/21 12:46	7440-43-9	
Calcium	**101000**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:46	7440-70-2	
Chromium	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:46	7440-47-3	
Iron	**4980**	ug/L	100	1	11/24/21 13:48	11/29/21 12:46	7439-89-6	
Lead	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:46	7439-92-1	
Lithium	ND	ug/L	20.0	1	11/24/21 13:48	11/29/21 12:46	7439-93-2	
Magnesium	**31400**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:46	7439-95-4	
Manganese	**732**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:46	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:46	7439-98-7	
Potassium	**1470**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:46	7440-09-7	
Silica	**20300**	ug/L	450	1	11/24/21 13:48	11/29/21 12:46	7631-86-9	N2
Sodium	**5960**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:46	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	11/29/21 14:44	11/30/21 23:09	7439-93-2	
Manganese, Dissolved	**776**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:09	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:09	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	11/22/21 15:30	11/24/21 02:20	7440-36-0	
Arsenic	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:20	7440-38-2	
Beryllium	ND	ug/L	0.20	1	11/22/21 15:30	11/24/21 02:20	7440-41-7	
Cobalt	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:20	7440-48-4	
Selenium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:20	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:20	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	11/21/21 20:00	11/24/21 10:30	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**291**	mg/L	2.0	1		11/22/21 15:20		
Alkalinity,Bicarbonate (CaCO3)	**291**	mg/L	2.0	1		11/22/21 15:20		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D1 **Lab ID: 50303157004** Collected: 11/16/21 13:21 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		11/22/21 15:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**436**	mg/L	10.0	1		11/18/21 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		11/19/21 08:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/23/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/01/21 12:06		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.10	1		11/18/21 11:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/18/21 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	12/01/21 09:30	12/02/21 14:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/01/21 15:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/01/21 23:22		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D2 **Lab ID: 50303157005** Collected: 11/17/21 08:12 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**20.9**	mg/L	2.5	10		11/20/21 18:47	16887-00-6	
Fluoride	**2.0**	mg/L	0.10	1		11/20/21 18:30	16984-48-8	
Sulfate	**11.4**	mg/L	0.25	1		11/20/21 18:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**11100**	ug/L	200	1	11/24/21 13:48	11/29/21 12:48	7429-90-5	
Barium	**162**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:48	7440-39-3	
Boron	**888**	ug/L	100	1	11/24/21 13:48	11/29/21 12:48	7440-42-8	
Cadmium	ND	ug/L	2.0	1	11/24/21 13:48	11/29/21 12:48	7440-43-9	
Calcium	**7300**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:48	7440-70-2	
Chromium	**17.5**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:48	7440-47-3	
Iron	**6500**	ug/L	100	1	11/24/21 13:48	11/29/21 12:48	7439-89-6	
Lead	ND	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:48	7439-92-1	
Lithium	**24.2**	ug/L	20.0	1	11/24/21 13:48	11/29/21 12:48	7439-93-2	
Magnesium	**2530**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:48	7439-95-4	
Manganese	**179**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:48	7439-96-5	
Molybdenum	**12.5**	ug/L	10.0	1	11/24/21 13:48	11/29/21 12:48	7439-98-7	
Potassium	**4980**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:48	7440-09-7	
Silica	**39900**	ug/L	450	1	11/24/21 13:48	11/29/21 12:48	7631-86-9	N2
Sodium	**152000**	ug/L	1000	1	11/24/21 13:48	11/29/21 12:48	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	11/29/21 14:44	11/30/21 23:11	7439-93-2	
Manganese, Dissolved	**34.1**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:11	7439-96-5	
Molybdenum, Dissolved	**11.8**	ug/L	10.0	1	11/29/21 14:44	11/30/21 23:11	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:25	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:25	7440-38-2	
Beryllium	**0.60**	ug/L	0.20	1	11/22/21 15:30	11/24/21 02:25	7440-41-7	
Cobalt	**2.8**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:25	7440-48-4	
Selenium	**1.1**	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:25	7782-49-2	
Thallium	ND	ug/L	1.0	1	11/22/21 15:30	11/24/21 02:25	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	11/21/21 20:00	11/24/21 10:34	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**310**	mg/L	2.0	1		11/22/21 15:20		
Alkalinity,Bicarbonate (CaCO3)	**281**	mg/L	2.0	1		11/22/21 15:20		

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ANALYTICAL RESULTS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D2 **Lab ID: 50303157005** Collected: 11/17/21 08:12 Received: 11/17/21 16:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**29.2**	mg/L	2.0	1		11/22/21 15:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**495**	mg/L	10.0	1		11/18/21 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.6**	Std. Units	0.10	1		11/19/21 08:40		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		11/23/21 10:06	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/01/21 12:06		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.31**	mg/L	0.10	1		11/18/21 11:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		11/18/21 11:25	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**2.3**	mg/L	0.15	1	12/01/21 09:30	12/02/21 14:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/01/21 15:45	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		12/01/21 23:55		

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651363
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3002164 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	11/20/21 12:42	
Fluoride	mg/L	ND	0.10	11/20/21 12:42	
Sulfate	mg/L	ND	0.25	11/20/21 12:42	

LABORATORY CONTROL SAMPLE: 3002165

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	0.45	90	80-120	
Sulfate	mg/L	2.5	2.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002166 3002167

Parameter	Units	50303167002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	696	125	125	810	810	91	91	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.55	0.56	90	93	80-120	2	15	
Sulfate	mg/L	193	25	25	212	212	74	74	80-120	0	15	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3002168 3002169

Parameter	Units	50303194002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	84.3	12.5	12.5	91.4	91.4	57	57	80-120	0	15	M0
Fluoride	mg/L	0.30	0.5	0.5	0.78	0.79	96	97	80-120	1	15	
Sulfate	mg/L	70.0	25	25	91.0	91.6	84	87	80-120	1	15	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 652067
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3005250 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	11/29/21 11:50	
Barium	ug/L	ND	10.0	11/29/21 11:50	
Boron	ug/L	ND	100	11/29/21 11:50	
Cadmium	ug/L	ND	2.0	11/29/21 11:50	
Calcium	ug/L	ND	1000	11/29/21 11:50	
Chromium	ug/L	ND	10.0	11/29/21 11:50	
Iron	ug/L	ND	100	11/29/21 11:50	
Lead	ug/L	ND	10.0	11/29/21 11:50	
Lithium	ug/L	ND	20.0	11/29/21 11:50	
Magnesium	ug/L	ND	1000	11/29/21 11:50	
Manganese	ug/L	ND	10.0	11/29/21 11:50	
Molybdenum	ug/L	ND	10.0	11/29/21 11:50	
Potassium	ug/L	ND	1000	11/29/21 11:50	
Silica	ug/L	ND	450	11/29/21 11:50	N2
Sodium	ug/L	ND	1000	11/29/21 11:50	

LABORATORY CONTROL SAMPLE: 3005251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	5080	102	80-120	
Barium	ug/L	1000	859	86	80-120	
Boron	ug/L	1000	999	100	80-120	
Cadmium	ug/L	1000	954	95	80-120	
Calcium	ug/L	5000	5190	104	80-120	
Chromium	ug/L	1000	995	100	80-120	
Iron	ug/L	2500	2450	98	80-120	
Lead	ug/L	1000	929	93	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	5000	4920	98	80-120	
Manganese	ug/L	1000	977	98	80-120	
Molybdenum	ug/L	1000	991	99	80-120	
Potassium	ug/L	5000	4860	97	80-120	
Silica	ug/L	5350	5400	101	80-120	N2
Sodium	ug/L	5000	4800	96	80-120	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005252 3005253

Parameter	Units	50303114002 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	5040	4880	101	97	75-125	3	20	
Barium	ug/L	37.9	1000	1000	898	895	86	86	75-125	0	20	
Boron	ug/L	ND	1000	1000	1070	1030	101	97	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	958	942	96	94	75-125	2	20	
Calcium	ug/L	96500	5000	5000	96200	96000	-5	-10	75-125	0	20	P6
Chromium	ug/L	ND	1000	1000	976	966	98	97	75-125	1	20	
Iron	ug/L	ND	2500	2500	2400	2320	94	91	75-125	4	20	
Lead	ug/L	ND	1000	1000	896	880	90	88	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1060	1050	105	105	75-125	1	20	
Magnesium	ug/L	30600	5000	5000	33800	33300	64	53	75-125	2	20	P6
Manganese	ug/L	ND	1000	1000	948	917	95	92	75-125	3	20	
Molybdenum	ug/L	ND	1000	1000	991	976	99	98	75-125	2	20	
Potassium	ug/L	1680	5000	5000	6690	6580	100	98	75-125	2	20	
Silica	ug/L	16700	5350	5350	21000	21000	80	80	75-125	0	20	N2
Sodium	ug/L	9780	5000	5000	14300	14300	90	90	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 652236
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3005896 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	11/30/21 22:33	
Manganese, Dissolved	ug/L	ND	10.0	11/30/21 22:33	
Molybdenum, Dissolved	ug/L	ND	10.0	11/30/21 22:33	

LABORATORY CONTROL SAMPLE: 3005897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	1060	106	80-120	
Manganese, Dissolved	ug/L	1000	1020	102	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005898 3005899

Parameter	Units	50302403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	0.031 mg/L	1000	1000	1150	1180	112	115	75-125	3	20	
Manganese, Dissolved	ug/L	1.0 mg/L	1000	1000	1970	2010	94	98	75-125	2	20	
Molybdenum, Dissolved	ug/L	0.17 mg/L	1000	1000	1160	1180	99	102	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005900 3005901

Parameter	Units	50303167002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	ND	1000	1000	1170	1160	116	115	75-125	1	20	
Manganese, Dissolved	ug/L	264	1000	1000	1240	1240	97	98	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651851
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3004560 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	11/24/21 01:46	
Arsenic	ug/L	ND	1.0	11/24/21 01:46	
Beryllium	ug/L	ND	0.20	11/24/21 01:46	
Cobalt	ug/L	ND	1.0	11/24/21 01:46	
Selenium	ug/L	ND	1.0	11/24/21 01:46	
Thallium	ug/L	ND	1.0	11/24/21 01:46	

LABORATORY CONTROL SAMPLE: 3004561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	105	80-120	
Arsenic	ug/L	40	38.7	97	80-120	
Beryllium	ug/L	40	38.4	96	80-120	
Cobalt	ug/L	40	39.5	99	80-120	
Selenium	ug/L	40	39.6	99	80-120	
Thallium	ug/L	40	39.8	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3004562 3004563

Parameter	Units	50302755001 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	42.6	43.2	106	108	75-125	1	20	
Arsenic	ug/L	<5.0	40	40	38.9	37.7	97	94	75-125	3	20	
Beryllium	ug/L	<1.0	40	40	39.7	39.9	99	100	75-125	1	20	
Cobalt	ug/L	<1.0	40	40	39.4	40.7	98	102	75-125	3	20	
Selenium	ug/L	<5.0	40	40	40.8	39.6	100	97	75-125	3	20	
Thallium	ug/L	<2.0	40	40	40.8	41.8	102	105	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651558 | Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 | Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3003096 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	11/24/21 09:28	

LABORATORY CONTROL SAMPLE: 3003097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	39.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003098 3003099

Parameter	Units	50303167002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	40	40	38.7	39.1	95	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651867 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3004593 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	11/22/21 15:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	11/22/21 15:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	11/22/21 15:20	

LABORATORY CONTROL SAMPLE: 3004594

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: 3004595

Parameter	Units	50303114002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	303	311	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	303	311	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3004596

Parameter	Units	50303247001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	86.4	86.9	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	86.4	86.9	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651161 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3001110 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/18/21 09:03	

LABORATORY CONTROL SAMPLE: 3001111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	296	99	80-120	

SAMPLE DUPLICATE: 3001112

Parameter	Units	50303114002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	393	401	2	10	

SAMPLE DUPLICATE: 3001113

Parameter	Units	50303167002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1730	1680	3	10	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651468
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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

SAMPLE DUPLICATE: 3002740

Parameter	Units	50302403001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

SAMPLE DUPLICATE: 3002741

Parameter	Units	50303157004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.6	6.7	2	2	H3

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 652096 | 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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3005327 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	11/23/21 10:06	

LABORATORY CONTROL SAMPLE: 3005328

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	108	90-110	

MATRIX SPIKE SAMPLE: 3005329

Parameter	Units	50303157004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005331 3005332

Parameter	Units	50303194002 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	0.44	89	88	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 653052 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3009035 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	12/01/21 12:00	H3,N2

LABORATORY CONTROL SAMPLE: 3009036

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: 3009037 3009038

Parameter	Units	50303114002 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	103	103	90-110	0	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009039 3009040

Parameter	Units	50303194002 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	107	90-110	6	20	H3,N2

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 651215
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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3001294 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/18/21 11:16	
Nitrogen, Nitrite	mg/L	ND	0.10	11/18/21 11:16	

LABORATORY CONTROL SAMPLE: 3001295

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	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001296 3001297

Parameter	Units	50303167002 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	0.088	1	1	1.1	1.1	104	105	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	104	104	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3001298 3001299

Parameter	Units	50303194002 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	1.0	99	101	90-110	2	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	106	109	90-110	3	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 653035 | 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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3008992 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	12/02/21 14:09	

LABORATORY CONTROL SAMPLE: 3008993

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3008994 3008995

Parameter	Units	50303114002 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		

MATRIX SPIKE SAMPLE: 3008996

Parameter	Units	50303157004 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: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 652938 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3008618 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	12/01/21 04:36	

LABORATORY CONTROL SAMPLE: 3008619

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: 3008620 3008621

Parameter	Units	50303104005 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	3.9	10	10	13.7	13.9	98	100	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3008622 3008623

Parameter	Units	50303114002 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	10.2	10.1	97	96	80-120	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 653175
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157001

METHOD BLANK: 3009507 Matrix: Water
Associated Lab Samples: 50303157001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	12/01/21 17:12	

LABORATORY CONTROL SAMPLE: 3009508

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: 3009509 3009510

Parameter	Units	50303114002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	10.4	10.7	99	103	80-120	3	20	

MATRIX SPIKE SAMPLE: 3009511

Parameter	Units	50303157001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	11.0	103	80-120	

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QUALITY CONTROL DATA

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 653176 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 3009512 Matrix: Water
Associated Lab Samples: 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	12/01/21 22:42	

LABORATORY CONTROL SAMPLE: 3009513

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: 3009514 3009515

Parameter	Units	50302535005 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	2.7	10	10	13.6	13.6	109	109	80-120	0	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-31D2 **Lab ID: 50303157001** Collected: 11/17/21 11:34 Received: 11/17/21 16:13 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.514 ± 0.540 (0.858) C:NA T:93%**	pCi/L	12/27/21 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.527 ± 0.354 (0.679) C:74% T:96%**	pCi/L	12/29/21 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.04 ± 0.894 (1.54)**	pCi/L	01/06/22 08:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-32D1 **Lab ID: 50303157002** Collected: 11/17/21 09:53 Received: 11/17/21 16:13 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.404 ± 0.459 (0.724) C:NA T:86%**	pCi/L	12/27/21 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.383 ± 0.430 (0.904) C:75% T:86%**	pCi/L	12/29/21 11:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.787 ± 0.889 (1.63)**	pCi/L	01/06/22 08:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34A **Lab ID: 50303157003** Collected: 11/16/21 13:07 Received: 11/17/21 16:13 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.894 ± 0.596 (0.767) C:NA T:92%**	pCi/L	12/27/21 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.421 ± 0.472 (0.994) C:73% T:86%**	pCi/L	12/29/21 11:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.32 ± 1.07 (1.76)**	pCi/L	01/06/22 08:23	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D1 **Lab ID: 50303157004** Collected: 11/16/21 13:21 Received: 11/17/21 16:13 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.538 ± 0.394 (0.440) C:NA T:94%**	pCi/L	12/27/21 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.808 ± 0.507 (0.967) C:71% T:89%**	pCi/L	12/29/21 11:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.35 ± 0.901 (1.41)**	pCi/L	01/06/22 08:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Sample: MW-34D2 **Lab ID: 50303157005** Collected: 11/17/21 08:12 Received: 11/17/21 16:13 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.916 ± 0.537 (0.616) C:NA T:90%**	pCi/L	12/27/21 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.563 ± 0.429 (0.847) C:75% T:86%**	pCi/L	12/29/21 11:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.48 ± 0.966 (1.46)**	pCi/L	01/06/22 08:23	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 475882 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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 2298571 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.654 ± 0.433 (0.827) C:75% T:78%	pCi/L	12/29/21 11:04	

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 Petersburg Landfill
Pace Project No.: 50303157

QC Batch: 475880 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: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

METHOD BLANK: 2298567 Matrix: Water
Associated Lab Samples: 50303157001, 50303157002, 50303157003, 50303157004, 50303157005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0585 ± 0.267 (0.431) C:NA T:78%	pCi/L	12/27/21 16:47	

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

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALIFIERS

Project: AES Petersburg Landfill
Pace Project No.: 50303157

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 Petersburg Landfill
Pace Project No.: 50303157

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50303157001	MW-31D2	EPA 9056	651363		
50303157002	MW-32D1	EPA 9056	651363		
50303157003	MW-34A	EPA 9056	651363		
50303157004	MW-34D1	EPA 9056	651363		
50303157005	MW-34D2	EPA 9056	651363		
50303157001	MW-31D2	EPA 3010	652067	EPA 6010	652679
50303157002	MW-32D1	EPA 3010	652067	EPA 6010	652679
50303157003	MW-34A	EPA 3010	652067	EPA 6010	652679
50303157004	MW-34D1	EPA 3010	652067	EPA 6010	652679
50303157005	MW-34D2	EPA 3010	652067	EPA 6010	652679
50303157001	MW-31D2	EPA 3010	652236	EPA 6010	653013
50303157002	MW-32D1	EPA 3010	652236	EPA 6010	653013
50303157003	MW-34A	EPA 3010	652236	EPA 6010	653013
50303157004	MW-34D1	EPA 3010	652236	EPA 6010	653013
50303157005	MW-34D2	EPA 3010	652236	EPA 6010	653013
50303157001	MW-31D2	EPA 200.2	651851	EPA 6020	652085
50303157002	MW-32D1	EPA 200.2	651851	EPA 6020	652085
50303157003	MW-34A	EPA 200.2	651851	EPA 6020	652085
50303157004	MW-34D1	EPA 200.2	651851	EPA 6020	652085
50303157005	MW-34D2	EPA 200.2	651851	EPA 6020	652085
50303157001	MW-31D2	EPA 200.2	651558	EPA 6020	651985
50303157002	MW-32D1	EPA 200.2	651558	EPA 6020	651985
50303157003	MW-34A	EPA 200.2	651558	EPA 6020	651985
50303157004	MW-34D1	EPA 200.2	651558	EPA 6020	651985
50303157005	MW-34D2	EPA 200.2	651558	EPA 6020	651985
50303157001	MW-31D2	EPA 903.1	475880		
50303157002	MW-32D1	EPA 903.1	475880		
50303157003	MW-34A	EPA 903.1	475880		
50303157004	MW-34D1	EPA 903.1	475880		
50303157005	MW-34D2	EPA 903.1	475880		
50303157001	MW-31D2	EPA 904.0	475882		
50303157002	MW-32D1	EPA 904.0	475882		
50303157003	MW-34A	EPA 904.0	475882		
50303157004	MW-34D1	EPA 904.0	475882		
50303157005	MW-34D2	EPA 904.0	475882		
50303157001	MW-31D2	Total Radium Calculation	478605		
50303157002	MW-32D1	Total Radium Calculation	478605		
50303157003	MW-34A	Total Radium Calculation	478605		
50303157004	MW-34D1	Total Radium Calculation	478605		
50303157005	MW-34D2	Total Radium Calculation	478605		
50303157001	MW-31D2	SM 2320B	651867		
50303157002	MW-32D1	SM 2320B	651867		
50303157003	MW-34A	SM 2320B	651867		
50303157004	MW-34D1	SM 2320B	651867		
50303157005	MW-34D2	SM 2320B	651867		

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg Landfill
Pace Project No.: 50303157

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50303157001	**MW-31D2**	SM 2540C	651161		
50303157002	**MW-32D1**	SM 2540C	651161		
50303157003	**MW-34A**	SM 2540C	651161		
50303157004	**MW-34D1**	SM 2540C	651161		
50303157005	**MW-34D2**	SM 2540C	651161		
50303157001	**MW-31D2**	SM 4500-H+B	651468		
50303157002	**MW-32D1**	SM 4500-H+B	651468		
50303157003	**MW-34A**	SM 4500-H+B	651468		
50303157004	**MW-34D1**	SM 4500-H+B	651468		
50303157005	**MW-34D2**	SM 4500-H+B	651468		
50303157001	**MW-31D2**	SM 4500-S2-D	652096		
50303157002	**MW-32D1**	SM 4500-S2-D	652096		
50303157003	**MW-34A**	SM 4500-S2-D	652096		
50303157004	**MW-34D1**	SM 4500-S2-D	652096		
50303157005	**MW-34D2**	SM 4500-S2-D	652096		
50303157001	**MW-31D2**	HACH 8146	653052		
50303157002	**MW-32D1**	HACH 8146	653052		
50303157003	**MW-34A**	HACH 8146	653052		
50303157004	**MW-34D1**	HACH 8146	653052		
50303157005	**MW-34D2**	HACH 8146	653052		
50303157001	**MW-31D2**	EPA 353.2	651215		
50303157002	**MW-32D1**	EPA 353.2	651215		
50303157003	**MW-34A**	EPA 353.2	651215		
50303157004	**MW-34D1**	EPA 353.2	651215		
50303157005	**MW-34D2**	EPA 353.2	651215		
50303157001	**MW-31D2**	EPA 365.1	653035	EPA 365.1	653335
50303157002	**MW-32D1**	EPA 365.1	653035	EPA 365.1	653335
50303157003	**MW-34A**	EPA 365.1	653035	EPA 365.1	653335
50303157004	**MW-34D1**	EPA 365.1	653035	EPA 365.1	653335
50303157005	**MW-34D2**	EPA 365.1	653035	EPA 365.1	653335
50303157001	**MW-31D2**	SM 5310C	652938		
50303157002	**MW-32D1**	SM 5310C	652938		
50303157003	**MW-34A**	SM 5310C	652938		
50303157004	**MW-34D1**	SM 5310C	652938		
50303157005	**MW-34D2**	SM 5310C	652938		
50303157001	**MW-31D2**	SM 5310C	653175		
50303157002	**MW-32D1**	SM 5310C	653176		
50303157003	**MW-34A**	SM 5310C	653176		
50303157004	**MW-34D1**	SM 5310C	653176		
50303157005	**MW-34D2**	SM 5310C	653176		

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WO# : 50303157

50303157

CHAIN-OF-CUSTODY / Analytical Request Document

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

...acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A	Required Project Information:	Section C Invoice Information:	
Company: ATC Group Services	Report To: Rob Duncan	Attention: Acounts Payable - Paula Sedam	
Address: 7988 Centerpoint Drive	Copy To: Mark Breting	Company Name: ATC Group Services	Regulatory Agency
Indianapolis, IN 46256		Address:	
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote: Level 4	
Phone: (317)649-2936 Fax:	Project Name: AES Petersburg Landfill N&E Wells	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date:	Project #: 170LF01166	Pace Profile #: 6246 / 31	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-30D1~~	WT																	x	x	x	x	x	x	x	x	x	x	
2	~~MW-30D2~~	WT																	x	x	x	x	x	x	x	x	x	x	
3	MW-31D2	WT				11/17/21	1134												x	x	x	x	x	x	x	x	x	x	001
4	~~MW-32I~~	WT																	x	x	x	x	x	x	x	x	x	x	
5	MW-32D1	WT				11/17/21	953												x	x	x	x	x	x	x	x	x	x	002
6	~~MW-32D2~~	WT																	x	x	x	x	x	x	x	x	x	x	
7	~~MW-33I~~	WT																	x	x	x	x	x	x	x	x	x	x	
8	~~MW-33D2~~	WT																	x	x	x	x	x	x	x	x	x	x	
9	MW-34A	WT				11/16/21	1307												x	x	x	x	x	x	x	x	x	x	003
10	MW-34D1	WT				11/16/21	1321												x	x	x	x	x	x	x	x	x	x	004
11	~~MW-34SS~~	WT																	x	x	x	x	x	x	x	x	x	x	005
12	MW-34D2	WT				11/17/21	812												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)		11/17/21	1613		11/17/21	1613	2.8	Y	Y	Y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn, Li) 6020 As										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:		DATE Signed:	11/17/21

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

Sample Container Count

COC PAGE ____ of ____

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												1	1			2	1	2	1	1	1		1					WT	✓	✓	
6																															
7																															
8																															
9												1	1			2	1	2	1	1	1		1					WT	✓	✓	
10												1	1			2	1	2	1	1	1		1					WT	✓	✓	
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	

F-IN-Q-290-rev.21, 02Feb2021

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 11/17/21 1645

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

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

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

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

4. **Cooler Temperature:** 2.8 / 2.8 °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:

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

February 16, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 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. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50304073001	**MW-33I**	Water	12/01/21 08:55	12/01/21 15:28
50304073002	**MW-33D2**	Water	12/01/21 08:10	12/01/21 15:28
50304073003	**MW-35D1**	Water	12/01/21 10:23	12/01/21 15:28
50304073004	**MW-35D2**	Water	12/01/21 11:05	12/01/21 15:28

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SAMPLE ANALYTE COUNT

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50304073001	**MW-33I**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	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
50304073002	**MW-33D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	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
50304073003	**MW-35D1**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	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
50304073004	**MW-35D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	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: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304073001	**MW-33I**					
EPA 9056	Chloride	100	mg/L	2.5	12/07/21 14:45	
EPA 9056	Fluoride	0.15	mg/L	0.10	12/07/21 14:26	
EPA 9056	Sulfate	1610	mg/L	25.0	12/07/21 15:05	
EPA 6010	Aluminum	387	ug/L	200	12/13/21 01:01	
EPA 6010	Barium	80.7	ug/L	10.0	12/13/21 01:01	
EPA 6010	Boron	1690	ug/L	100	12/13/21 01:01	
EPA 6010	Calcium	331000	ug/L	3000	12/13/21 01:27	
EPA 6010	Iron	3440	ug/L	100	12/13/21 01:01	
EPA 6010	Lithium	220	ug/L	20.0	12/13/21 01:01	
EPA 6010	Magnesium	71400	ug/L	1000	12/13/21 01:01	
EPA 6010	Manganese	3030	ug/L	10.0	12/13/21 01:01	
EPA 6010	Molybdenum	34.4	ug/L	10.0	12/13/21 01:01	
EPA 6010	Potassium	7580	ug/L	1000	12/13/21 01:01	
EPA 6010	Silica	18000	ug/L	450	12/13/21 01:01	N2
EPA 6010	Sodium	282000	ug/L	3000	12/13/21 01:27	
EPA 6010	Lithium, Dissolved	200	ug/L	20.0	12/15/21 12:15	
EPA 6010	Manganese, Dissolved	3210	ug/L	10.0	12/15/21 12:15	
EPA 6010	Molybdenum, Dissolved	35.2	ug/L	10.0	12/15/21 12:15	
EPA 6020	Arsenic	1.5	ug/L	1.0	12/06/21 20:53	
EPA 6020	Cobalt	3.8	ug/L	1.0	12/06/21 20:53	
EPA 6020	Arsenic, Dissolved	1.2	ug/L	1.0	12/09/21 04:38	
EPA 903.1	Radium-226	0.610 ± 0.583 (0.889) C:NA T:81%	pCi/L		01/11/22 12:44	
EPA 904.0	Radium-228	2.94 ± 0.764 (0.750) C:66% T:88%	pCi/L		01/07/22 11:26	
Total Radium Calculation	Total Radium	3.55 ± 1.35 (1.64)	pCi/L		01/11/22 18:20	
SM 2320B	Alkalinity, Total as CaCO3	115	mg/L	2.0	12/02/21 11:25	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	115	mg/L	2.0	12/02/21 11:25	
SM 2540C	Total Dissolved Solids	2460	mg/L	40.0	12/02/21 13:36	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	12/09/21 10:27	H3
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	12/15/21 18:09	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	12/10/21 03:53	
50304073002	**MW-33D2**					
EPA 9056	Chloride	51.0	mg/L	2.5	12/07/21 15:44	
EPA 9056	Fluoride	3.8	mg/L	0.10	12/07/21 15:24	
EPA 9056	Sulfate	4.2	mg/L	0.25	12/07/21 15:24	
EPA 6010	Aluminum	30400	ug/L	200	12/13/21 01:03	
EPA 6010	Barium	283	ug/L	10.0	12/13/21 01:03	
EPA 6010	Boron	1060	ug/L	100	12/13/21 01:03	
EPA 6010	Calcium	8960	ug/L	3000	12/13/21 01:29	
EPA 6010	Chromium	47.0	ug/L	10.0	12/13/21 01:03	
EPA 6010	Iron	36200	ug/L	100	12/13/21 01:03	

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

SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304073002	**MW-33D2**					
EPA 6010	Lead	17.2	ug/L	10.0	12/13/21 01:03	
EPA 6010	Lithium	63.0	ug/L	20.0	12/13/21 01:03	
EPA 6010	Magnesium	9340	ug/L	1000	12/13/21 01:03	
EPA 6010	Manganese	629	ug/L	10.0	12/13/21 01:03	
EPA 6010	Molybdenum	17.5	ug/L	10.0	12/13/21 01:03	
EPA 6010	Potassium	11100	ug/L	1000	12/13/21 01:03	
EPA 6010	Silica	61500	ug/L	450	12/13/21 01:03	N2
EPA 6010	Sodium	256000	ug/L	3000	12/13/21 01:29	
EPA 6010	Lithium, Dissolved	22.2	ug/L	20.0	12/15/21 12:17	
EPA 6010	Manganese, Dissolved	13.9	ug/L	10.0	12/15/21 12:17	
EPA 6020	Arsenic	8.7	ug/L	1.0	12/06/21 21:12	
EPA 6020	Beryllium	1.4	ug/L	0.20	12/06/21 21:12	
EPA 6020	Cobalt	16.0	ug/L	1.0	12/06/21 21:12	
EPA 6020	Selenium	4.8	ug/L	1.0	12/06/21 21:12	
EPA 6020	Arsenic, Dissolved	1.0	ug/L	1.0	12/09/21 04:42	
EPA 903.1	Radium-226	1.46 ± 0.922 (1.21) C:NA T:64%	pCi/L		01/11/22 12:44	
EPA 904.0	Radium-228	0.790 ± 0.419 (0.735) C:65% T:86%	pCi/L		01/07/22 11:26	
Total Radium Calculation	Total Radium	2.25 ± 1.34 (1.95)	pCi/L		01/11/22 18:20	
SM 2320B	Alkalinity, Total as CaCO3	543	mg/L	2.0	12/02/21 11:25	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	500	mg/L	2.0	12/02/21 11:25	
SM 2320B	Alkalinity,Carbonate (CaCO3)	42.6	mg/L	2.0	12/02/21 11:25	
SM 2540C	Total Dissolved Solids	676	mg/L	40.0	12/02/21 13:36	
SM 4500-H+B	pH at 25 Degrees C	8.7	Std. Units	0.10	12/09/21 10:25	H3
EPA 353.2	Nitrogen, Nitrate	0.29	mg/L	0.10	12/01/21 16:54	
EPA 365.1	Phosphate as P04	2.8	mg/L	0.15	12/14/21 11:07	
50304073003	**MW-35D1**					
EPA 9056	Chloride	22.1	mg/L	2.5	12/07/21 16:42	
EPA 9056	Fluoride	0.31	mg/L	0.10	12/07/21 16:22	
EPA 9056	Sulfate	492	mg/L	25.0	12/07/21 17:01	
EPA 6010	Barium	110	ug/L	10.0	12/13/21 01:05	
EPA 6010	Calcium	180000	ug/L	1000	12/13/21 01:05	
EPA 6010	Iron	4050	ug/L	100	12/13/21 01:05	
EPA 6010	Lithium	96.6	ug/L	20.0	12/13/21 01:05	
EPA 6010	Magnesium	54500	ug/L	1000	12/13/21 01:05	
EPA 6010	Manganese	1250	ug/L	10.0	12/13/21 01:05	
EPA 6010	Molybdenum	34.4	ug/L	10.0	12/13/21 01:05	
EPA 6010	Potassium	3180	ug/L	1000	12/13/21 01:05	
EPA 6010	Silica	18400	ug/L	450	12/13/21 01:05	N2
EPA 6010	Sodium	38900	ug/L	1000	12/13/21 01:05	
EPA 6010	Lithium, Dissolved	145	ug/L	20.0	12/15/21 12:20	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304073003	**MW-35D1**					
EPA 6010	Manganese, Dissolved	1390	ug/L	10.0	12/15/21 12:20	
EPA 6010	Molybdenum, Dissolved	37.9	ug/L	10.0	12/15/21 12:20	
EPA 6020	Arsenic	2.2	ug/L	1.0	12/06/21 20:58	
EPA 6020	Arsenic, Dissolved	2.1	ug/L	1.0	12/09/21 04:46	
EPA 903.1	Radium-226	0.764 ± 0.483 (0.546) C:NA T:89%	pCi/L		01/11/22 12:44	
EPA 904.0	Radium-228	-0.122 ± 0.384 (0.912) C:67% T:84%	pCi/L		01/07/22 11:26	
Total Radium Calculation	Total Radium	0.764 ± 0.867 (1.46)	pCi/L		01/11/22 18:20	
SM 2320B	Alkalinity, Total as CaCO3	298	mg/L	2.0	12/03/21 15:40	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	298	mg/L	2.0	12/03/21 15:40	
SM 2540C	Total Dissolved Solids	994	mg/L	20.0	12/02/21 13:37	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	12/09/21 10:29	H3
EPA 365.1	Phosphate as P04	0.98	mg/L	0.15	12/14/21 11:07	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	12/15/21 18:29	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	12/10/21 04:38	
50304073004	**MW-35D2**					
EPA 9056	Chloride	9.8	mg/L	0.25	12/07/21 17:59	
EPA 9056	Fluoride	2.3	mg/L	0.10	12/07/21 17:59	
EPA 9056	Sulfate	7.8	mg/L	0.25	12/07/21 17:59	
EPA 6010	Aluminum	34900	ug/L	200	12/13/21 01:08	
EPA 6010	Barium	364	ug/L	10.0	12/13/21 01:08	
EPA 6010	Boron	1090	ug/L	100	12/13/21 01:08	
EPA 6010	Cadmium	2.2	ug/L	2.0	12/13/21 01:08	
EPA 6010	Calcium	15600	ug/L	1000	12/13/21 01:08	
EPA 6010	Chromium	67.1	ug/L	10.0	12/13/21 01:08	
EPA 6010	Iron	52400	ug/L	100	12/13/21 01:08	
EPA 6010	Lead	21.7	ug/L	10.0	12/13/21 01:08	
EPA 6010	Lithium	69.2	ug/L	20.0	12/13/21 01:08	
EPA 6010	Magnesium	12900	ug/L	1000	12/13/21 01:08	
EPA 6010	Manganese	1020	ug/L	10.0	12/13/21 01:08	
EPA 6010	Molybdenum	44.7	ug/L	10.0	12/13/21 01:08	
EPA 6010	Potassium	12000	ug/L	1000	12/13/21 01:08	
EPA 6010	Silica	63800	ug/L	450	12/13/21 01:08	N2
EPA 6010	Sodium	173000	ug/L	1000	12/13/21 01:08	
EPA 6010	Manganese, Dissolved	20.1	ug/L	10.0	12/15/21 12:26	
EPA 6010	Molybdenum, Dissolved	21.5	ug/L	10.0	12/15/21 12:26	
EPA 6020	Arsenic	12.1	ug/L	1.0	12/06/21 21:22	
EPA 6020	Beryllium	1.8	ug/L	0.20	12/06/21 21:22	
EPA 6020	Cobalt	24.0	ug/L	1.0	12/06/21 21:22	
EPA 6020	Selenium	7.1	ug/L	1.0	12/06/21 21:22	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304073004	**MW-35D2**					
EPA 903.1	Radium-226	2.92 ± 1.15 (0.294) C:NA T:49%	pCi/L		01/11/22 12:44	
EPA 904.0	Radium-228	1.44 ± 0.589 (0.960) C:66% T:82%	pCi/L		01/07/22 11:26	
Total Radium Calculation	Total Radium	4.36 ± 1.74 (1.25)	pCi/L		01/11/22 18:20	
SM 2320B	Alkalinity, Total as CaCO3	406	mg/L	2.0	12/03/21 15:40	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	372	mg/L	2.0	12/03/21 15:40	
SM 2320B	Alkalinity,Carbonate (CaCO3)	33.6	mg/L	2.0	12/03/21 15:40	
SM 2540C	Total Dissolved Solids	395	mg/L	50.0	12/02/21 13:37	
SM 4500-H+B	pH at 25 Degrees C	8.5	Std. Units	0.10	12/09/21 10:32	H3
EPA 353.2	Nitrogen, Nitrate	0.27	mg/L	0.10	12/01/21 16:58	
EPA 365.1	Phosphate as P04	3.4	mg/L	0.30	12/14/21 11:38	
SM 5310C	Dissolved Organic Carbon	1.2	mg/L	1.0	12/10/21 05:04	

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33I **Lab ID: 50304073001** Collected: 12/01/21 08:55 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**100**	mg/L	2.5	10		12/07/21 14:45	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	1		12/07/21 14:26	16984-48-8	
Sulfate	**1610**	mg/L	25.0	100		12/07/21 15:05	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**387**	ug/L	200	1	12/10/21 09:23	12/13/21 01:01	7429-90-5	
Barium	**80.7**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:01	7440-39-3	
Boron	**1690**	ug/L	100	1	12/10/21 09:23	12/13/21 01:01	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/10/21 09:23	12/13/21 01:01	7440-43-9	
Calcium	**331000**	ug/L	3000	3	12/10/21 09:23	12/13/21 01:27	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:01	7440-47-3	
Iron	**3440**	ug/L	100	1	12/10/21 09:23	12/13/21 01:01	7439-89-6	
Lead	ND	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:01	7439-92-1	
Lithium	**220**	ug/L	20.0	1	12/10/21 09:23	12/13/21 01:01	7439-93-2	
Magnesium	**71400**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:01	7439-95-4	
Manganese	**3030**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:01	7439-96-5	
Molybdenum	**34.4**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:01	7439-98-7	
Potassium	**7580**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:01	7440-09-7	
Silica	**18000**	ug/L	450	1	12/10/21 09:23	12/13/21 01:01	7631-86-9	N2
Sodium	**282000**	ug/L	3000	3	12/10/21 09:23	12/13/21 01:27	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**200**	ug/L	20.0	1	12/14/21 15:20	12/15/21 12:15	7439-93-2	
Manganese, Dissolved	**3210**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:15	7439-96-5	
Molybdenum, Dissolved	**35.2**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:15	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	12/05/21 14:00	12/06/21 20:53	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:53	7440-38-2	
Beryllium	ND	ug/L	0.20	1	12/05/21 14:00	12/06/21 20:53	7440-41-7	
Cobalt	**3.8**	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:53	7440-48-4	
Selenium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:53	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:53	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.2**	ug/L	1.0	1	12/08/21 09:47	12/09/21 04:38	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**115**	mg/L	2.0	1		12/02/21 11:25		
Alkalinity,Bicarbonate (CaCO3)	**115**	mg/L	2.0	1		12/02/21 11:25		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33I **Lab ID: 50304073001** Collected: 12/01/21 08:55 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		12/02/21 11:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2460**	mg/L	40.0	1		12/02/21 13:36		
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		12/09/21 10:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		12/08/21 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/15/21 10:50		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		12/01/21 16:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/01/21 16:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	12/11/21 06:00	12/14/21 11:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		12/15/21 18:09	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		12/10/21 03:53		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33D2 **Lab ID: 50304073002** Collected: 12/01/21 08:10 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**51.0**	mg/L	2.5	10		12/07/21 15:44	16887-00-6	
Fluoride	**3.8**	mg/L	0.10	1		12/07/21 15:24	16984-48-8	
Sulfate	**4.2**	mg/L	0.25	1		12/07/21 15:24	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**30400**	ug/L	200	1	12/10/21 09:23	12/13/21 01:03	7429-90-5	
Barium	**283**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:03	7440-39-3	
Boron	**1060**	ug/L	100	1	12/10/21 09:23	12/13/21 01:03	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/10/21 09:23	12/13/21 01:03	7440-43-9	
Calcium	**8960**	ug/L	3000	3	12/10/21 09:23	12/13/21 01:29	7440-70-2	
Chromium	**47.0**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:03	7440-47-3	
Iron	**36200**	ug/L	100	1	12/10/21 09:23	12/13/21 01:03	7439-89-6	
Lead	**17.2**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:03	7439-92-1	
Lithium	**63.0**	ug/L	20.0	1	12/10/21 09:23	12/13/21 01:03	7439-93-2	
Magnesium	**9340**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:03	7439-95-4	
Manganese	**629**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:03	7439-96-5	
Molybdenum	**17.5**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:03	7439-98-7	
Potassium	**11100**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:03	7440-09-7	
Silica	**61500**	ug/L	450	1	12/10/21 09:23	12/13/21 01:03	7631-86-9	N2
Sodium	**256000**	ug/L	3000	3	12/10/21 09:23	12/13/21 01:29	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**22.2**	ug/L	20.0	1	12/14/21 15:20	12/15/21 12:17	7439-93-2	
Manganese, Dissolved	**13.9**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:17	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:17	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	12/05/21 14:00	12/06/21 21:12	7440-36-0	
Arsenic	**8.7**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:12	7440-38-2	
Beryllium	**1.4**	ug/L	0.20	1	12/05/21 14:00	12/06/21 21:12	7440-41-7	
Cobalt	**16.0**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:12	7440-48-4	
Selenium	**4.8**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:12	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.0**	ug/L	1.0	1	12/08/21 09:47	12/09/21 04:42	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**543**	mg/L	2.0	1		12/02/21 11:25		
Alkalinity,Bicarbonate (CaCO3)	**500**	mg/L	2.0	1		12/02/21 11:25		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33D2 **Lab ID: 50304073002** Collected: 12/01/21 08:10 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**42.6**	mg/L	2.0	1		12/02/21 11:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**676**	mg/L	40.0	1		12/02/21 13:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.7**	Std. Units	0.10	1		12/09/21 10:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		12/08/21 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/15/21 10:50		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		12/01/21 16:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/01/21 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	**2.8**	mg/L	0.15	1	12/11/21 06:00	12/14/21 11:07		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	2.0	2		12/15/21 18:19	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/10/21 04:19		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D1 **Lab ID: 50304073003** Collected: 12/01/21 10:23 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**22.1**	mg/L	2.5	10		12/07/21 16:42	16887-00-6	
Fluoride	**0.31**	mg/L	0.10	1		12/07/21 16:22	16984-48-8	
Sulfate	**492**	mg/L	25.0	100		12/07/21 17:01	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	12/10/21 09:23	12/13/21 01:05	7429-90-5	
Barium	**110**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:05	7440-39-3	
Boron	ND	ug/L	100	1	12/10/21 09:23	12/13/21 01:05	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/10/21 09:23	12/13/21 01:05	7440-43-9	
Calcium	**180000**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:05	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:05	7440-47-3	
Iron	**4050**	ug/L	100	1	12/10/21 09:23	12/13/21 01:05	7439-89-6	
Lead	ND	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:05	7439-92-1	
Lithium	**96.6**	ug/L	20.0	1	12/10/21 09:23	12/13/21 01:05	7439-93-2	
Magnesium	**54500**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:05	7439-95-4	
Manganese	**1250**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:05	7439-96-5	
Molybdenum	**34.4**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:05	7439-98-7	
Potassium	**3180**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:05	7440-09-7	
Silica	**18400**	ug/L	450	1	12/10/21 09:23	12/13/21 01:05	7631-86-9	N2
Sodium	**38900**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:05	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**145**	ug/L	20.0	1	12/14/21 15:20	12/15/21 12:20	7439-93-2	
Manganese, Dissolved	**1390**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:20	7439-96-5	
Molybdenum, Dissolved	**37.9**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:20	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	12/05/21 14:00	12/06/21 20:58	7440-36-0	
Arsenic	**2.2**	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:58	7440-38-2	
Beryllium	ND	ug/L	0.20	1	12/05/21 14:00	12/06/21 20:58	7440-41-7	
Cobalt	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:58	7440-48-4	
Selenium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:58	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 20:58	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**2.1**	ug/L	1.0	1	12/08/21 09:47	12/09/21 04:46	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**298**	mg/L	2.0	1		12/03/21 15:40		
Alkalinity,Bicarbonate (CaCO3)	**298**	mg/L	2.0	1		12/03/21 15:40		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D1 **Lab ID: 50304073003** Collected: 12/01/21 10:23 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		12/03/21 15:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**994**	mg/L	20.0	1		12/02/21 13:37		
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		12/09/21 10:29		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		12/08/21 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/15/21 10:55		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		12/01/21 16:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/01/21 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	**0.98**	mg/L	0.15	1	12/11/21 06:00	12/14/21 11:07		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.5**	mg/L	1.0	1		12/15/21 18:29	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		12/10/21 04:38		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D2 **Lab ID: 50304073004** Collected: 12/01/21 11:05 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**9.8**	mg/L	0.25	1		12/07/21 17:59	16887-00-6	
Fluoride	**2.3**	mg/L	0.10	1		12/07/21 17:59	16984-48-8	
Sulfate	**7.8**	mg/L	0.25	1		12/07/21 17:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**34900**	ug/L	200	1	12/10/21 09:23	12/13/21 01:08	7429-90-5	
Barium	**364**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:08	7440-39-3	
Boron	**1090**	ug/L	100	1	12/10/21 09:23	12/13/21 01:08	7440-42-8	
Cadmium	**2.2**	ug/L	2.0	1	12/10/21 09:23	12/13/21 01:08	7440-43-9	
Calcium	**15600**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:08	7440-70-2	
Chromium	**67.1**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:08	7440-47-3	
Iron	**52400**	ug/L	100	1	12/10/21 09:23	12/13/21 01:08	7439-89-6	
Lead	**21.7**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:08	7439-92-1	
Lithium	**69.2**	ug/L	20.0	1	12/10/21 09:23	12/13/21 01:08	7439-93-2	
Magnesium	**12900**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:08	7439-95-4	
Manganese	**1020**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:08	7439-96-5	
Molybdenum	**44.7**	ug/L	10.0	1	12/10/21 09:23	12/13/21 01:08	7439-98-7	
Potassium	**12000**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:08	7440-09-7	
Silica	**63800**	ug/L	450	1	12/10/21 09:23	12/13/21 01:08	7631-86-9	N2
Sodium	**173000**	ug/L	1000	1	12/10/21 09:23	12/13/21 01:08	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	12/14/21 15:20	12/15/21 12:26	7439-93-2	
Manganese, Dissolved	**20.1**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:26	7439-96-5	
Molybdenum, Dissolved	**21.5**	ug/L	10.0	1	12/14/21 15:20	12/15/21 12:26	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	12/05/21 14:00	12/06/21 21:22	7440-36-0	
Arsenic	**12.1**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:22	7440-38-2	
Beryllium	**1.8**	ug/L	0.20	1	12/05/21 14:00	12/06/21 21:22	7440-41-7	
Cobalt	**24.0**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:22	7440-48-4	
Selenium	**7.1**	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:22	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/05/21 14:00	12/06/21 21:22	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	12/08/21 09:47	12/09/21 04:50	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**406**	mg/L	2.0	1		12/03/21 15:40		
Alkalinity,Bicarbonate (CaCO3)	**372**	mg/L	2.0	1		12/03/21 15:40		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D2 **Lab ID: 50304073004** Collected: 12/01/21 11:05 Received: 12/01/21 15:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**33.6**	mg/L	2.0	1		12/03/21 15:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**395**	mg/L	50.0	1		12/02/21 13:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.5**	Std. Units	0.10	1		12/09/21 10:32		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.50	5		12/08/21 14:26	18496-25-8	D3
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		12/15/21 10:56		H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.27**	mg/L	0.10	1		12/01/21 16:58	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/01/21 16:58	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**3.4**	mg/L	0.30	2	12/11/21 06:00	12/14/21 11:38		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	2.0	2		12/15/21 18:38	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.2**	mg/L	1.0	1		12/10/21 05:04		

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653528
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3011647 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	12/07/21 10:14	
Fluoride	mg/L	ND	0.10	12/07/21 10:14	
Sulfate	mg/L	ND	0.25	12/07/21 10:14	

LABORATORY CONTROL SAMPLE: 3011648

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	101	80-120	
Fluoride	mg/L	0.5	0.50	100	80-120	
Sulfate	mg/L	2.5	2.6	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011649 3011650

Parameter	Units	50304037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	55.5	12.5	12.5	68.9	68.8	107	107	80-120	0	15	
Fluoride	mg/L	0.57	0.5	0.5	1.1	1.1	102	99	80-120	1	15	
Sulfate	mg/L	15.2	2.5	2.5	17.7	17.7	102	99	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653864
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3014005 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	12/13/21 00:09	
Barium	ug/L	ND	10.0	12/13/21 00:09	
Boron	ug/L	ND	100	12/13/21 00:09	
Cadmium	ug/L	ND	2.0	12/13/21 00:09	
Calcium	ug/L	ND	1000	12/13/21 00:09	
Chromium	ug/L	ND	10.0	12/13/21 00:09	
Iron	ug/L	ND	100	12/13/21 00:09	
Lead	ug/L	ND	10.0	12/13/21 00:09	
Lithium	ug/L	ND	20.0	12/13/21 00:09	
Magnesium	ug/L	ND	1000	12/13/21 00:09	
Manganese	ug/L	ND	10.0	12/13/21 00:09	
Molybdenum	ug/L	ND	10.0	12/13/21 00:09	
Potassium	ug/L	ND	1000	12/13/21 00:09	
Silica	ug/L	ND	450	12/13/21 00:09	N2
Sodium	ug/L	ND	1000	12/13/21 00:09	

LABORATORY CONTROL SAMPLE: 3014006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9420	94	80-120	
Barium	ug/L	1000	952	95	80-120	
Boron	ug/L	1000	944	94	80-120	
Cadmium	ug/L	1000	929	93	80-120	
Calcium	ug/L	10000	9680	97	80-120	
Chromium	ug/L	1000	953	95	80-120	
Iron	ug/L	10000	9320	93	80-120	
Lead	ug/L	1000	893	89	80-120	
Lithium	ug/L	1000	969	97	80-120	
Magnesium	ug/L	10000	9090	91	80-120	
Manganese	ug/L	1000	921	92	80-120	
Molybdenum	ug/L	1000	989	99	80-120	
Potassium	ug/L	10000	9310	93	80-120	
Silica	ug/L	10700	9890	92	80-120	N2
Sodium	ug/L	10000	9420	94	80-120	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014007 3014008

Parameter	Units	50304117003 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	4600	4660	92	93	75-125	1	20	
Barium	ug/L	285	1000	1000	1120	1140	83	86	75-125	2	20	
Boron	ug/L	ND	1000	1000	1020	1040	94	96	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	909	928	91	93	75-125	2	20	
Calcium	ug/L	78100	5000	5000	77400	79500	-14	29	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	920	937	92	94	75-125	2	20	
Iron	ug/L	1740	2500	2500	3890	3980	86	89	75-125	2	20	
Lead	ug/L	ND	1000	1000	843	858	84	86	75-125	2	20	
Lithium	ug/L	ND	1000	1000	968	992	96	98	75-125	2	20	
Magnesium	ug/L	31000	5000	5000	33500	34400	49	66	75-125	3	20	P6
Manganese	ug/L	27.5	1000	1000	914	937	89	91	75-125	3	20	
Molybdenum	ug/L	24.5	1000	1000	969	988	94	96	75-125	2	20	
Potassium	ug/L	1730	5000	5000	6410	6670	94	99	75-125	4	20	
Silica	ug/L	20000	5350	5350	23000	23400	56	64	75-125	2	20	N2,P6
Sodium	ug/L	15800	5000	5000	19500	20100	73	86	75-125	3	20	M0

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3016801 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	12/15/21 12:11	
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
Lithium, Dissolved	ug/L	1000	962	96	80-120	
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
Lithium, Dissolved	ug/L	366	1000	1000	1490	1440	112	107	75-125	3	20	
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: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653463
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3011064 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/06/21 20:10	
Arsenic	ug/L	ND	1.0	12/06/21 20:10	
Beryllium	ug/L	ND	0.20	12/06/21 20:10	
Cobalt	ug/L	ND	1.0	12/06/21 20:10	
Selenium	ug/L	ND	1.0	12/06/21 20:10	
Thallium	ug/L	ND	1.0	12/06/21 20:10	

LABORATORY CONTROL SAMPLE: 3011065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.7	109	80-120	
Arsenic	ug/L	40	39.7	99	80-120	
Beryllium	ug/L	40	38.2	96	80-120	
Cobalt	ug/L	40	42.6	106	80-120	
Selenium	ug/L	40	40.6	102	80-120	
Thallium	ug/L	40	40.7	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011066 3011067

Parameter	Units	50304037001 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	43.1	43.7	108	109	75-125	1	20	
Arsenic	ug/L	ND	40	40	38.0	39.1	94	97	75-125	3	20	
Beryllium	ug/L	ND	40	40	39.2	39.2	98	98	75-125	0	20	
Cobalt	ug/L	ND	40	40	39.8	39.6	99	99	75-125	0	20	
Selenium	ug/L	ND	40	40	38.3	38.3	96	96	75-125	0	20	
Thallium	ug/L	ND	40	40	40.7	40.8	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653677 | Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 | Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3012787 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	12/09/21 01:15	

LABORATORY CONTROL SAMPLE: 3012788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	38.6	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012789 3012790

Parameter	Units	50303895001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	40	40	39.3	39.8	98	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653245
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002

METHOD BLANK: 3009788 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/02/21 11:25	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	12/02/21 11:25	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	12/02/21 11:25	

LABORATORY CONTROL SAMPLE: 3009789

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: 3009790

Parameter	Units	50303986001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	378	394	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	378	394	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3009791

Parameter	Units	50304037001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	226	219	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	209	203	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	16.8	16.0	5	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653484
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073003, 50304073004

METHOD BLANK: 3011245 Matrix: Water
Associated Lab Samples: 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/03/21 15:40	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	12/03/21 15:40	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	12/03/21 15:40	

LABORATORY CONTROL SAMPLE: 3011246

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: 3011247

Parameter	Units	50304256004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	544	578	6	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	544	578	6	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3011248

Parameter	Units	50304194002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	260	252	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	260	249	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	3.2		20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653330 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3010135 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/02/21 13:33	

LABORATORY CONTROL SAMPLE: 3010136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	290	97	80-120	

SAMPLE DUPLICATE: 3010137

Parameter	Units	50304073001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2460	2410	2	10	

SAMPLE DUPLICATE: 3010138

Parameter	Units	50304117003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	366	366	0	10	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653720
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: 50304073001, 50304073002, 50304073003, 50304073004

SAMPLE DUPLICATE: 3013083

Parameter	Units	50304177017 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3013084

Parameter	Units	50304117003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	1	2	H3

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653628 | 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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3012529 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	12/08/21 14:26	

LABORATORY CONTROL SAMPLE: 3012530

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: 3012531 3012532

Parameter	Units	50304194002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.50	98	98	90-110	0	20	

MATRIX SPIKE SAMPLE: 3012533

Parameter	Units	50304208001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.38	0.5	0.77	78	90-110	M0

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 654971 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3019210 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653165 | 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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3009489 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	12/01/21 13:26	
Nitrogen, Nitrite	mg/L	ND	0.10	12/01/21 13:26	

LABORATORY CONTROL SAMPLE: 3009490

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	0.93	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009491 3009492

Parameter	Units	50304059006 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	0.12	1	1	1.1	1.1	101	100	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.90	0.91	89	90	90-110	0	20	M0

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 654336 | 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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3016912 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	12/14/21 10:58	

LABORATORY CONTROL SAMPLE: 3016913

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016914 3016915

Parameter	Units	50303689001 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	119			122	121				1		

MATRIX SPIKE SAMPLE: 3016916

Parameter	Units	50304097006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	<0.15		1.5			

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 654862 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3018732 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 653991 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 3014702 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	12/09/21 19:16	

LABORATORY CONTROL SAMPLE: 3014703

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: 3014704 3014705

Parameter	Units	50303442005 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	11.7	11.7	99	99	80-120	0	20	

MATRIX SPIKE SAMPLE: 3014706

Parameter	Units	50303370002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	313	400	703	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33I **Lab ID: 50304073001** Collected: 12/01/21 08:55 Received: 12/01/21 15:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.610 ± 0.583 (0.889) C:NA T:81%**	pCi/L	01/11/22 12:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.94 ± 0.764 (0.750) C:66% T:88%**	pCi/L	01/07/22 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.55 ± 1.35 (1.64)**	pCi/L	01/11/22 18:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-33D2 **Lab ID: 50304073002** Collected: 12/01/21 08:10 Received: 12/01/21 15:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.46 ± 0.922 (1.21) C:NA T:64%**	pCi/L	01/11/22 12:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.790 ± 0.419 (0.735) C:65% T:86%**	pCi/L	01/07/22 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.25 ± 1.34 (1.95)**	pCi/L	01/11/22 18:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D1 **Lab ID: 50304073003** Collected: 12/01/21 10:23 Received: 12/01/21 15:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.764 ± 0.483 (0.546) C:NA T:89%**	pCi/L	01/11/22 12:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.122 ± 0.384 (0.912) C:67% T:84%**	pCi/L	01/07/22 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.764 ± 0.867 (1.46)**	pCi/L	01/11/22 18:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Sample: MW-35D2 **Lab ID: 50304073004** Collected: 12/01/21 11:05 Received: 12/01/21 15:28 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**2.92 ± 1.15 (0.294) C:NA T:49%**	pCi/L	01/11/22 12:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.44 ± 0.589 (0.960) C:66% T:82%**	pCi/L	01/07/22 11:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.36 ± 1.74 (1.25)**	pCi/L	01/11/22 18:20	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 477412
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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 2306877 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.363 (0.743) C:NA T:82%	pCi/L	01/11/22 12:11	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

QC Batch: 477413
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: 50304073001, 50304073002, 50304073003, 50304073004

METHOD BLANK: 2306878 Matrix: Water
Associated Lab Samples: 50304073001, 50304073002, 50304073003, 50304073004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0128 ± 0.323 (0.756) C:70% T:83%	pCi/L	01/07/22 11:28	

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QUALIFIERS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

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.
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 Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50304073001	**MW-33I**	EPA 9056	653528		
50304073002	**MW-33D2**	EPA 9056	653528		
50304073003	**MW-35D1**	EPA 9056	653528		
50304073004	**MW-35D2**	EPA 9056	653528		
50304073001	**MW-33I**	EPA 3010	653864	EPA 6010	654428
50304073002	**MW-33D2**	EPA 3010	653864	EPA 6010	654428
50304073003	**MW-35D1**	EPA 3010	653864	EPA 6010	654428
50304073004	**MW-35D2**	EPA 3010	653864	EPA 6010	654428
50304073001	**MW-33I**	EPA 3010	654323	EPA 6010	655048
50304073002	**MW-33D2**	EPA 3010	654323	EPA 6010	655048
50304073003	**MW-35D1**	EPA 3010	654323	EPA 6010	655048
50304073004	**MW-35D2**	EPA 3010	654323	EPA 6010	655048
50304073001	**MW-33I**	EPA 200.2	653463	EPA 6020	653779
50304073002	**MW-33D2**	EPA 200.2	653463	EPA 6020	653779
50304073003	**MW-35D1**	EPA 200.2	653463	EPA 6020	653779
50304073004	**MW-35D2**	EPA 200.2	653463	EPA 6020	653779
50304073001	**MW-33I**	EPA 200.2	653677	EPA 6020	654064
50304073002	**MW-33D2**	EPA 200.2	653677	EPA 6020	654064
50304073003	**MW-35D1**	EPA 200.2	653677	EPA 6020	654064
50304073004	**MW-35D2**	EPA 200.2	653677	EPA 6020	654064
50304073001	**MW-33I**	EPA 903.1	477412		
50304073002	**MW-33D2**	EPA 903.1	477412		
50304073003	**MW-35D1**	EPA 903.1	477412		
50304073004	**MW-35D2**	EPA 903.1	477412		
50304073001	**MW-33I**	EPA 904.0	477413		
50304073002	**MW-33D2**	EPA 904.0	477413		
50304073003	**MW-35D1**	EPA 904.0	477413		
50304073004	**MW-35D2**	EPA 904.0	477413		
50304073001	**MW-33I**	Total Radium Calculation	479174		
50304073002	**MW-33D2**	Total Radium Calculation	479174		
50304073003	**MW-35D1**	Total Radium Calculation	479174		
50304073004	**MW-35D2**	Total Radium Calculation	479174		
50304073001	**MW-33I**	SM 2320B	653245		
50304073002	**MW-33D2**	SM 2320B	653245		
50304073003	**MW-35D1**	SM 2320B	653484		
50304073004	**MW-35D2**	SM 2320B	653484		
50304073001	**MW-33I**	SM 2540C	653330		
50304073002	**MW-33D2**	SM 2540C	653330		
50304073003	**MW-35D1**	SM 2540C	653330		
50304073004	**MW-35D2**	SM 2540C	653330		
50304073001	**MW-33I**	SM 4500-H+B	653720		
50304073002	**MW-33D2**	SM 4500-H+B	653720		
50304073003	**MW-35D1**	SM 4500-H+B	653720		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304073

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50304073004	**MW-35D2**	SM 4500-H+B	653720		
50304073001	**MW-33I**	SM 4500-S2-D	653628		
50304073002	**MW-33D2**	SM 4500-S2-D	653628		
50304073003	**MW-35D1**	SM 4500-S2-D	653628		
50304073004	**MW-35D2**	SM 4500-S2-D	653628		
50304073001	**MW-33I**	HACH 8146	654971		
50304073002	**MW-33D2**	HACH 8146	654971		
50304073003	**MW-35D1**	HACH 8146	654971		
50304073004	**MW-35D2**	HACH 8146	654971		
50304073001	**MW-33I**	EPA 353.2	653165		
50304073002	**MW-33D2**	EPA 353.2	653165		
50304073003	**MW-35D1**	EPA 353.2	653165		
50304073004	**MW-35D2**	EPA 353.2	653165		
50304073001	**MW-33I**	EPA 365.1	654336	EPA 365.1	654752
50304073002	**MW-33D2**	EPA 365.1	654336	EPA 365.1	654752
50304073003	**MW-35D1**	EPA 365.1	654336	EPA 365.1	654752
50304073004	**MW-35D2**	EPA 365.1	654336	EPA 365.1	654752
50304073001	**MW-33I**	SM 5310C	654862		
50304073002	**MW-33D2**	SM 5310C	654862		
50304073003	**MW-35D1**	SM 5310C	654862		
50304073004	**MW-35D2**	SM 5310C	654862		
50304073001	**MW-33I**	SM 5310C	653991		
50304073002	**MW-33D2**	SM 5310C	653991		
50304073003	**MW-35D1**	SM 5310C	653991		
50304073004	**MW-35D2**	SM 5310C	653991		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Reques

WO# : 50304073

50304073

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.p

Section A	Section B	Section C
Required Client Information:	**Required Project Information:**	**Invoice Information:**
Company: ATC Group Services	Report To: Rob Duncan	Attention: Acounts Payable - Paula Sed
Address: 7988 Centerpoint Drive	Copy To: Mark Breting	Company Name: ATC Group Services
Indianapolis, IN 46256		Address:
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote: Level 4
Phone: (317)649-2936 Fax:	Project Name: AES Petersburg Landfill N&E Wells	Pace Project Manager: hayden.putt@pacelabs.com,
Requested Due Date:	Project #: 170LF01166	Pace Profile #: 6246 / 31

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	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-35D~~1 MW-33I	WT				12/01/21	855		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			001
14	~~MW-35S~~ MW-33D2	WT					810		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
15	~~MW-35D~~2 MW-35D1	WT					1023		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
16	MW-35D2	WT					1105		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X			
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	12/01/21	1528		12/1/21	1528	0.3	Y	N	Y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn, Li) 6020 As										
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: 12/01/21				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 12/11/21 1600

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 °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: 16:35			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												1	1			2	1	2	1	1	1		1					WS	✓	✓	
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 18, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Dear Mr. Breting:

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
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 Petersburg LF N&E Wells
Pace Project No.: 50304775

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

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 Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50304775001	**MW-30D2**	Water	12/08/21 15:41	12/09/21 15:32
50304775002	**MW-32D2**	Water	12/08/21 13:28	12/09/21 15:32
50304775003	**MW-34SS**	Water	12/08/21 10:52	12/09/21 15:32
50304775004	**MW-35SS**	Water	12/09/21 11:28	12/09/21 15:32

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50304775001	**MW-30D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50304775002	**MW-32D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50304775003	**MW-34SS**	EPA 9056	RMR	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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
50304775004	**MW-35SS**	EPA 9056	RMR	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	DMT	1	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

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304775001	**MW-30D2**					
EPA 9056	Chloride	11.9	mg/L	0.25	12/16/21 05:52	
EPA 9056	Fluoride	0.92	mg/L	0.10	12/16/21 05:52	
EPA 9056	Sulfate	5.1	mg/L	0.25	12/16/21 05:52	
EPA 6010	Aluminum	15400	ug/L	200	12/22/21 14:23	
EPA 6010	Barium	178	ug/L	10.0	12/22/21 14:23	
EPA 6010	Boron	796	ug/L	100	12/22/21 14:23	
EPA 6010	Cadmium	2.1	ug/L	2.0	12/22/21 14:23	
EPA 6010	Calcium	11300	ug/L	1000	12/22/21 14:23	
EPA 6010	Chromium	173	ug/L	10.0	12/22/21 14:23	
EPA 6010	Iron	22800	ug/L	100	12/22/21 14:23	
EPA 6010	Lead	10.4	ug/L	10.0	12/22/21 14:23	
EPA 6010	Lithium	35.5	ug/L	20.0	12/22/21 14:23	
EPA 6010	Magnesium	5790	ug/L	1000	12/22/21 14:23	
EPA 6010	Manganese	447	ug/L	10.0	12/22/21 14:23	
EPA 6010	Molybdenum	64.6	ug/L	10.0	12/22/21 14:23	
EPA 6010	Potassium	7160	ug/L	1000	12/22/21 14:23	
EPA 6010	Silica	54600	ug/L	450	12/22/21 14:23	N2
EPA 6010	Sodium	143000	ug/L	1000	12/22/21 14:23	
EPA 6010	Manganese, Dissolved	18.5	ug/L	10.0	12/22/21 00:13	
EPA 6010	Molybdenum, Dissolved	47.7	ug/L	10.0	12/22/21 00:13	
EPA 6020	Antimony	6.4	ug/L	1.0	12/14/21 22:40	
EPA 6020	Arsenic	7.4	ug/L	1.0	12/14/21 22:40	
EPA 6020	Beryllium	0.96	ug/L	0.20	12/14/21 22:40	
EPA 6020	Cobalt	8.5	ug/L	1.0	12/14/21 22:40	
EPA 6020	Selenium	5.4	ug/L	1.0	12/14/21 22:40	
EPA 6020	Arsenic, Dissolved	3.1	ug/L	1.0	12/13/21 04:07	
EPA 903.1	Radium-226	2.30 ± 1.02 (1.08) C:NA T:84%	pCi/L		01/22/22 13:11	
EPA 904.0	Radium-228	0.959 ± 0.628 (1.20) C:69% T:87%	pCi/L		01/19/22 17:43	
Total Radium Calculation	Total Radium	3.26 ± 1.65 (2.28)	pCi/L		01/24/22 11:12	
SM 2320B	Alkalinity, Total as CaCO3	270	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	236	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Carbonate (CaCO3)	33.8	mg/L	2.0	12/17/21 12:01	
SM 2540C	Total Dissolved Solids	456	mg/L	20.0	12/11/21 10:20	
SM 4500-H+B	pH at 25 Degrees C	9.0	Std. Units	0.10	12/10/21 13:28	H3
EPA 353.2	Nitrogen, Nitrate	0.28	mg/L	0.10	12/09/21 18:46	
EPA 365.1	Phosphate as P04	2.9	mg/L	0.15	12/22/21 10:23	
50304775002	**MW-32D2**					
EPA 9056	Chloride	21.9	mg/L	2.5	12/16/21 06:36	
EPA 9056	Fluoride	1.1	mg/L	0.10	12/16/21 06:21	
EPA 9056	Sulfate	66.9	mg/L	2.5	12/16/21 06:36	
EPA 6010	Aluminum	9270	ug/L	200	12/22/21 14:25	

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 Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304775002	**MW-32D2**					
EPA 6010	Barium	171	ug/L	10.0	12/22/21 14:25	
EPA 6010	Boron	815	ug/L	100	12/22/21 14:25	
EPA 6010	Calcium	19700	ug/L	1000	12/22/21 14:25	
EPA 6010	Chromium	31.9	ug/L	10.0	12/22/21 14:25	
EPA 6010	Iron	12200	ug/L	100	12/22/21 14:25	
EPA 6010	Lithium	36.1	ug/L	20.0	12/22/21 14:25	
EPA 6010	Magnesium	7310	ug/L	1000	12/22/21 14:25	
EPA 6010	Manganese	276	ug/L	10.0	12/22/21 14:25	
EPA 6010	Molybdenum	22.5	ug/L	10.0	12/22/21 14:25	
EPA 6010	Potassium	6610	ug/L	1000	12/22/21 14:25	
EPA 6010	Silica	36900	ug/L	450	12/22/21 14:25	N2
EPA 6010	Sodium	134000	ug/L	1000	12/22/21 14:25	
EPA 6010	Lithium, Dissolved	22.2	ug/L	20.0	12/22/21 00:15	
EPA 6010	Manganese, Dissolved	40.3	ug/L	10.0	12/22/21 00:15	
EPA 6010	Molybdenum, Dissolved	17.4	ug/L	10.0	12/22/21 00:15	
EPA 6020	Antimony	1.9	ug/L	1.0	12/14/21 22:44	
EPA 6020	Arsenic	3.2	ug/L	1.0	12/14/21 22:44	
EPA 6020	Beryllium	0.51	ug/L	0.20	12/14/21 22:44	
EPA 6020	Cobalt	4.9	ug/L	1.0	12/14/21 22:44	
EPA 6020	Selenium	1.4	ug/L	1.0	12/14/21 22:44	
EPA 903.1	Radium-226	1.38 ± 0.759 (0.880) C:NA T:93%	pCi/L		01/22/22 13:26	
EPA 904.0	Radium-228	1.32 ± 0.623 (1.03) C:69% T:83%	pCi/L		01/19/22 17:43	
Total Radium Calculation	Total Radium	2.70 ± 1.38 (1.91)	pCi/L		01/24/22 11:12	
SM 2320B	Alkalinity, Total as CaCO3	232	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	219	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Carbonate (CaCO3)	12.8	mg/L	2.0	12/17/21 12:01	
SM 2540C	Total Dissolved Solids	394	mg/L	20.0	12/11/21 10:20	
SM 4500-H+B	pH at 25 Degrees C	8.3	Std. Units	0.10	12/10/21 13:24	H3
EPA 353.2	Nitrogen, Nitrate	0.17	mg/L	0.10	12/09/21 18:47	
EPA 365.1	Phosphate as P04	0.94	mg/L	0.15	12/22/21 10:31	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	12/20/21 21:02	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	12/17/21 01:09	
50304775003	**MW-34SS**					
EPA 9056	Chloride	3.9	mg/L	0.25	12/16/21 06:50	
EPA 9056	Sulfate	12.5	mg/L	0.25	12/16/21 06:50	
EPA 6010	Aluminum	1680	ug/L	200	12/22/21 14:27	
EPA 6010	Barium	290	ug/L	10.0	12/22/21 14:27	
EPA 6010	Boron	220	ug/L	100	12/22/21 14:27	
EPA 6010	Calcium	65600	ug/L	1000	12/22/21 14:27	
EPA 6010	Iron	3160	ug/L	100	12/22/21 14:27	

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304775003	**MW-34SS**					
EPA 6010	Lithium	27.6	ug/L	20.0	12/22/21 14:27	
EPA 6010	Magnesium	15300	ug/L	1000	12/22/21 14:27	
EPA 6010	Manganese	399	ug/L	10.0	12/22/21 14:27	
EPA 6010	Molybdenum	18.6	ug/L	10.0	12/22/21 14:27	
EPA 6010	Potassium	4130	ug/L	1000	12/22/21 14:27	
EPA 6010	Silica	28200	ug/L	450	12/22/21 14:27	N2
EPA 6010	Sodium	51100	ug/L	1000	12/22/21 14:27	
EPA 6010	Lithium, Dissolved	22.9	ug/L	20.0	12/22/21 00:17	
EPA 6010	Manganese, Dissolved	340	ug/L	10.0	12/22/21 00:17	
EPA 6010	Molybdenum, Dissolved	18.7	ug/L	10.0	12/22/21 00:17	
EPA 6020	Arsenic	2.7	ug/L	1.0	12/14/21 22:49	
EPA 6020	Cobalt	1.6	ug/L	1.0	12/14/21 22:49	
EPA 6020	Arsenic, Dissolved	1.8	ug/L	1.0	12/13/21 04:16	
EPA 903.1	Radium-226	0.413 ± 0.536 (0.859) C:NA T:95%	pCi/L		01/22/22 13:26	
EPA 904.0	Radium-228	1.28 ± 0.631 (1.08) C:67% T:89%	pCi/L		01/19/22 17:45	
Total Radium Calculation	Total Radium	1.69 ± 1.17 (1.94)	pCi/L		01/24/22 11:12	
SM 2320B	Alkalinity, Total as CaCO3	301	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	301	mg/L	2.0	12/17/21 12:01	
SM 2540C	Total Dissolved Solids	351	mg/L	10.0	12/11/21 10:20	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	12/10/21 13:23	H3
EPA 353.2	Nitrogen, Nitrate	0.10	mg/L	0.10	12/09/21 18:53	
EPA 365.1	Phosphate as P04	0.32	mg/L	0.15	12/22/21 10:31	
50304775004	**MW-35SS**					
EPA 9056	Chloride	11.0	mg/L	0.25	12/16/21 07:20	
EPA 9056	Fluoride	0.46	mg/L	0.10	12/16/21 07:20	
EPA 9056	Sulfate	13.2	mg/L	0.25	12/16/21 07:20	
EPA 6010	Aluminum	10600	ug/L	200	12/22/21 14:37	
EPA 6010	Barium	356	ug/L	10.0	12/22/21 14:37	
EPA 6010	Boron	541	ug/L	100	12/22/21 14:37	
EPA 6010	Calcium	35100	ug/L	1000	12/22/21 14:37	
EPA 6010	Chromium	20.6	ug/L	10.0	12/22/21 14:37	
EPA 6010	Iron	21000	ug/L	100	12/22/21 14:37	
EPA 6010	Lithium	48.8	ug/L	20.0	12/22/21 14:37	
EPA 6010	Magnesium	12600	ug/L	1000	12/22/21 14:37	
EPA 6010	Manganese	481	ug/L	10.0	12/22/21 14:37	
EPA 6010	Potassium	6710	ug/L	1000	12/22/21 14:37	
EPA 6010	Silica	42200	ug/L	450	12/22/21 14:37	N2
EPA 6010	Sodium	100000	ug/L	1000	12/22/21 14:37	
EPA 6010	Lithium, Dissolved	27.5	ug/L	20.0	12/22/21 00:19	
EPA 6010	Manganese, Dissolved	75.1	ug/L	10.0	12/22/21 00:19	

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SUMMARY OF DETECTION

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50304775004	**MW-35SS**					
EPA 6020	Arsenic	4.5	ug/L	1.0	12/14/21 22:54	
EPA 6020	Beryllium	0.69	ug/L	0.20	12/14/21 22:54	
EPA 6020	Cobalt	8.8	ug/L	1.0	12/14/21 22:54	
EPA 6020	Selenium	2.3	ug/L	1.0	12/14/21 22:54	
EPA 903.1	Radium-226	1.97 ± 1.00 (0.862) C:NA T:94%	pCi/L		01/22/22 13:26	
EPA 904.0	Radium-228	0.746 ± 0.899 (1.90) C:65% T:83%	pCi/L		01/19/22 17:44	
Total Radium Calculation	Total Radium	2.72 ± 1.90 (2.76)	pCi/L		01/24/22 11:12	
SM 2320B	Alkalinity, Total as CaCO3	288	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	278	mg/L	2.0	12/17/21 12:01	
SM 2320B	Alkalinity,Carbonate (CaCO3)	10.6	mg/L	2.0	12/17/21 12:01	
SM 2540C	Total Dissolved Solids	316	mg/L	20.0	12/11/21 10:30	
SM 4500-H+B	pH at 25 Degrees C	8.0	Std. Units	0.10	12/10/21 13:29	H3
EPA 365.1	Phosphate as P04	0.91	mg/L	0.15	12/22/21 10:32	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	12/17/21 01:30	

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-30D2 **Lab ID: 50304775001** Collected: 12/08/21 15:41 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	**11.9**	mg/L	0.25	1		12/16/21 05:52	16887-00-6	
Fluoride	**0.92**	mg/L	0.10	1		12/16/21 05:52	16984-48-8	
Sulfate	**5.1**	mg/L	0.25	1		12/16/21 05:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**15400**	ug/L	200	1	12/20/21 08:35	12/22/21 14:23	7429-90-5	
Barium	**178**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:23	7440-39-3	
Boron	**796**	ug/L	100	1	12/20/21 08:35	12/22/21 14:23	7440-42-8	
Cadmium	**2.1**	ug/L	2.0	1	12/20/21 08:35	12/22/21 14:23	7440-43-9	
Calcium	**11300**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:23	7440-70-2	
Chromium	**173**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:23	7440-47-3	
Iron	**22800**	ug/L	100	1	12/20/21 08:35	12/22/21 14:23	7439-89-6	
Lead	**10.4**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:23	7439-92-1	
Lithium	**35.5**	ug/L	20.0	1	12/20/21 08:35	12/22/21 14:23	7439-93-2	
Magnesium	**5790**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:23	7439-95-4	
Manganese	**447**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:23	7439-96-5	
Molybdenum	**64.6**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:23	7439-98-7	
Potassium	**7160**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:23	7440-09-7	
Silica	**54600**	ug/L	450	1	12/20/21 08:35	12/22/21 14:23	7631-86-9	N2
Sodium	**143000**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:23	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	12/21/21 15:03	12/22/21 00:13	7439-93-2	
Manganese, Dissolved	**18.5**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:13	7439-96-5	
Molybdenum, Dissolved	**47.7**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:13	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**6.4**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:40	7440-36-0	
Arsenic	**7.4**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:40	7440-38-2	
Beryllium	**0.96**	ug/L	0.20	1	12/14/21 08:22	12/14/21 22:40	7440-41-7	
Cobalt	**8.5**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:40	7440-48-4	
Selenium	**5.4**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:40	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:40	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**3.1**	ug/L	1.0	1	12/12/21 19:40	12/13/21 04:07	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**270**	mg/L	2.0	1		12/17/21 12:01		
Alkalinity,Bicarbonate (CaCO3)	**236**	mg/L	2.0	1		12/17/21 12:01		

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7726 Moller Road
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(317)228-3100

ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-30D2 **Lab ID: 50304775001** Collected: 12/08/21 15:41 Received: 12/09/21 15:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**33.8**	mg/L	2.0	1		12/17/21 12:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**456**	mg/L	20.0	1		12/11/21 10:20		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**9.0**	Std. Units	0.10	1		12/10/21 13:28		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	ND	mg/L	0.20	1		12/15/21 11:03	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.28**	mg/L	0.10	1		12/09/21 18:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/09/21 18:46	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**2.9**	mg/L	0.15	1	12/21/21 10:00	12/22/21 10:23		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/20/21 20:53	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/17/21 00:58		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-32D2 **Lab ID: 50304775002** Collected: 12/08/21 13:28 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	**21.9**	mg/L	2.5	10		12/16/21 06:36	16887-00-6	
Fluoride	**1.1**	mg/L	0.10	1		12/16/21 06:21	16984-48-8	
Sulfate	**66.9**	mg/L	2.5	10		12/16/21 06:36	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**9270**	ug/L	200	1	12/20/21 08:35	12/22/21 14:25	7429-90-5	
Barium	**171**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:25	7440-39-3	
Boron	**815**	ug/L	100	1	12/20/21 08:35	12/22/21 14:25	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/20/21 08:35	12/22/21 14:25	7440-43-9	
Calcium	**19700**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:25	7440-70-2	
Chromium	**31.9**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:25	7440-47-3	
Iron	**12200**	ug/L	100	1	12/20/21 08:35	12/22/21 14:25	7439-89-6	
Lead	ND	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:25	7439-92-1	
Lithium	**36.1**	ug/L	20.0	1	12/20/21 08:35	12/22/21 14:25	7439-93-2	
Magnesium	**7310**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:25	7439-95-4	
Manganese	**276**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:25	7439-96-5	
Molybdenum	**22.5**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:25	7439-98-7	
Potassium	**6610**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:25	7440-09-7	
Silica	**36900**	ug/L	450	1	12/20/21 08:35	12/22/21 14:25	7631-86-9	N2
Sodium	**134000**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:25	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**22.2**	ug/L	20.0	1	12/21/21 15:03	12/22/21 00:15	7439-93-2	
Manganese, Dissolved	**40.3**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:15	7439-96-5	
Molybdenum, Dissolved	**17.4**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:15	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**1.9**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:44	7440-36-0	
Arsenic	**3.2**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:44	7440-38-2	
Beryllium	**0.51**	ug/L	0.20	1	12/14/21 08:22	12/14/21 22:44	7440-41-7	
Cobalt	**4.9**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:44	7440-48-4	
Selenium	**1.4**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:44	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:44	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	12/12/21 19:40	12/13/21 04:11	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**232**	mg/L	2.0	1		12/17/21 12:01		
Alkalinity,Bicarbonate (CaCO3)	**219**	mg/L	2.0	1		12/17/21 12:01		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-32D2 **Lab ID: 50304775002** Collected: 12/08/21 13:28 Received: 12/09/21 15:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**12.8**	mg/L	2.0	1		12/17/21 12:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**394**	mg/L	20.0	1		12/11/21 10:20		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.3**	Std. Units	0.10	1		12/10/21 13:24		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	ND	mg/L	0.20	1		12/15/21 11:03	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.17**	mg/L	0.10	1		12/09/21 18:47	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/09/21 18:47	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.94**	mg/L	0.15	1	12/21/21 10:00	12/22/21 10:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		12/20/21 21:02	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		12/17/21 01:09		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-34SS **Lab ID: 50304775003** Collected: 12/08/21 10:52 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	**3.9**	mg/L	0.25	1		12/16/21 06:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/16/21 06:50	16984-48-8	
Sulfate	**12.5**	mg/L	0.25	1		12/16/21 06:50	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1680**	ug/L	200	1	12/20/21 08:35	12/22/21 14:27	7429-90-5	
Barium	**290**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:27	7440-39-3	
Boron	**220**	ug/L	100	1	12/20/21 08:35	12/22/21 14:27	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/20/21 08:35	12/22/21 14:27	7440-43-9	
Calcium	**65600**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:27	7440-70-2	
Chromium	ND	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:27	7440-47-3	
Iron	**3160**	ug/L	100	1	12/20/21 08:35	12/22/21 14:27	7439-89-6	
Lead	ND	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:27	7439-92-1	
Lithium	**27.6**	ug/L	20.0	1	12/20/21 08:35	12/22/21 14:27	7439-93-2	
Magnesium	**15300**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:27	7439-95-4	
Manganese	**399**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:27	7439-96-5	
Molybdenum	**18.6**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:27	7439-98-7	
Potassium	**4130**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:27	7440-09-7	
Silica	**28200**	ug/L	450	1	12/20/21 08:35	12/22/21 14:27	7631-86-9	N2
Sodium	**51100**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:27	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**22.9**	ug/L	20.0	1	12/21/21 15:03	12/22/21 00:17	7439-93-2	
Manganese, Dissolved	**340**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:17	7439-96-5	
Molybdenum, Dissolved	**18.7**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:17	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	12/14/21 08:22	12/14/21 22:49	7440-36-0	
Arsenic	**2.7**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:49	7440-38-2	
Beryllium	ND	ug/L	0.20	1	12/14/21 08:22	12/14/21 22:49	7440-41-7	
Cobalt	**1.6**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:49	7440-48-4	
Selenium	ND	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:49	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.8**	ug/L	1.0	1	12/12/21 19:40	12/13/21 04:16	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**301**	mg/L	2.0	1		12/17/21 12:01		
Alkalinity,Bicarbonate (CaCO3)	**301**	mg/L	2.0	1		12/17/21 12:01		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-34SS **Lab ID: 50304775003** Collected: 12/08/21 10:52 Received: 12/09/21 15:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		12/17/21 12:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**351**	mg/L	10.0	1		12/11/21 10:20		
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		12/10/21 13:23		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	ND	mg/L	0.20	1		12/15/21 11:03	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.10**	mg/L	0.10	1		12/09/21 18:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/09/21 18:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.32**	mg/L	0.15	1	12/21/21 10:00	12/22/21 10:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/20/21 21:31	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		12/17/21 01:19		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-35SS **Lab ID: 50304775004** Collected: 12/09/21 11:28 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	**11.0**	mg/L	0.25	1		12/16/21 07:20	16887-00-6	
Fluoride	**0.46**	mg/L	0.10	1		12/16/21 07:20	16984-48-8	
Sulfate	**13.2**	mg/L	0.25	1		12/16/21 07:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**10600**	ug/L	200	1	12/20/21 08:35	12/22/21 14:37	7429-90-5	
Barium	**356**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:37	7440-39-3	
Boron	**541**	ug/L	100	1	12/20/21 08:35	12/22/21 14:37	7440-42-8	
Cadmium	ND	ug/L	2.0	1	12/20/21 08:35	12/22/21 14:37	7440-43-9	
Calcium	**35100**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:37	7440-70-2	
Chromium	**20.6**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:37	7440-47-3	
Iron	**21000**	ug/L	100	1	12/20/21 08:35	12/22/21 14:37	7439-89-6	
Lead	ND	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:37	7439-92-1	
Lithium	**48.8**	ug/L	20.0	1	12/20/21 08:35	12/22/21 14:37	7439-93-2	
Magnesium	**12600**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:37	7439-95-4	
Manganese	**481**	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	12/20/21 08:35	12/22/21 14:37	7439-98-7	
Potassium	**6710**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:37	7440-09-7	
Silica	**42200**	ug/L	450	1	12/20/21 08:35	12/22/21 14:37	7631-86-9	N2
Sodium	**100000**	ug/L	1000	1	12/20/21 08:35	12/22/21 14:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**27.5**	ug/L	20.0	1	12/21/21 15:03	12/22/21 00:19	7439-93-2	
Manganese, Dissolved	**75.1**	ug/L	10.0	1	12/21/21 15:03	12/22/21 00:19	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	12/21/21 15:03	12/22/21 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	12/14/21 08:22	12/14/21 22:54	7440-36-0	
Arsenic	**4.5**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:54	7440-38-2	
Beryllium	**0.69**	ug/L	0.20	1	12/14/21 08:22	12/14/21 22:54	7440-41-7	
Cobalt	**8.8**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:54	7440-48-4	
Selenium	**2.3**	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:54	7782-49-2	
Thallium	ND	ug/L	1.0	1	12/14/21 08:22	12/14/21 22:54	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	12/12/21 19:40	12/13/21 04:20	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**288**	mg/L	2.0	1		12/17/21 12:01		
Alkalinity,Bicarbonate (CaCO3)	**278**	mg/L	2.0	1		12/17/21 12:01		

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ANALYTICAL RESULTS

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-35SS **Lab ID: 50304775004** Collected: 12/09/21 11:28 Received: 12/09/21 15:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**10.6**	mg/L	2.0	1		12/17/21 12:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**316**	mg/L	20.0	1		12/11/21 10:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		12/10/21 13:29		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	ND	mg/L	0.20	1		12/15/21 11:04	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		12/09/21 19:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		12/09/21 19:02	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.91**	mg/L	0.15	1	12/21/21 10:00	12/22/21 10:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		12/20/21 21:41	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		12/17/21 01:30		

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654560
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3017619 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	12/21/21 12:49	
Fluoride	mg/L	ND	0.10	12/21/21 12:49	
Sulfate	mg/L	ND	0.25	12/21/21 12:49	

LABORATORY CONTROL SAMPLE: 3017620

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	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017621 3017622

Parameter	Units	50304723015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	151	125	125	242	241	73	72	80-120	0	15	M0
Fluoride	mg/L	<0.011	0.5	0.5	0.45	0.45	89	91	80-120	2	15	
Sulfate	mg/L	0.38	2.5	2.5	2.7	2.6	94	91	80-120	3	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017623 3017624

Parameter	Units	50304779001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	159	125	125	278	277	95	94	80-120	0	15	
Fluoride	mg/L	0.16	0.5	0.5	0.69	0.70	107	108	80-120	1	15	
Sulfate	mg/L	68.0	25	25	94.7	94.4	107	106	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655385
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3021485 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	12/22/21 14:16	
Barium	ug/L	ND	10.0	12/22/21 14:16	
Boron	ug/L	ND	100	12/22/21 14:16	
Cadmium	ug/L	ND	2.0	12/22/21 14:16	
Calcium	ug/L	ND	1000	12/22/21 14:16	
Chromium	ug/L	ND	10.0	12/22/21 14:16	
Iron	ug/L	ND	100	12/22/21 14:16	
Lead	ug/L	ND	10.0	12/22/21 14:16	
Lithium	ug/L	ND	20.0	12/22/21 14:16	
Magnesium	ug/L	ND	1000	12/22/21 14:16	
Manganese	ug/L	ND	10.0	12/22/21 14:16	
Molybdenum	ug/L	ND	10.0	12/22/21 14:16	
Potassium	ug/L	ND	1000	12/22/21 17:02	
Silica	ug/L	ND	450	12/22/21 14:16	N2
Sodium	ug/L	ND	1000	12/22/21 14:16	

LABORATORY CONTROL SAMPLE: 3021486

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9700	97	80-120	
Barium	ug/L	1000	1050	105	80-120	
Boron	ug/L	1000	995	100	80-120	
Cadmium	ug/L	1000	975	97	80-120	
Calcium	ug/L	10000	9980	100	80-120	
Chromium	ug/L	1000	1010	101	80-120	
Iron	ug/L	10000	9680	97	80-120	
Lead	ug/L	1000	940	94	80-120	
Lithium	ug/L	1000	1080	108	80-120	
Magnesium	ug/L	10000	9380	94	80-120	
Manganese	ug/L	1000	954	95	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10300	103	80-120	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021487 3021488

Parameter	Units	50304775003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	1680	10000	10000	12500	12000	108	103	75-125	4	20	
Barium	ug/L	290	1000	1000	1320	1280	103	99	75-125	3	20	
Boron	ug/L	220	1000	1000	1220	1170	99	95	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	990	960	99	96	75-125	3	20	
Calcium	ug/L	65600	10000	10000	75200	71300	96	57	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	1000	972	100	97	75-125	3	20	
Iron	ug/L	3160	10000	10000	12800	12300	96	91	75-125	4	20	
Lead	ug/L	ND	1000	1000	913	892	91	89	75-125	2	20	
Lithium	ug/L	27.6	1000	1000	1140	1110	111	108	75-125	3	20	
Magnesium	ug/L	15300	10000	10000	24500	23400	92	81	75-125	5	20	
Manganese	ug/L	399	1000	1000	1330	1290	93	89	75-125	4	20	
Molybdenum	ug/L	18.6	1000	1000	1060	1030	105	101	75-125	3	20	
Potassium	ug/L	4130	10000	10000	14400	13900	103	98	75-125	4	20	
Silica	ug/L	28200	10700	10700	42400	39900	132	109	75-125	6	20	N2
Sodium	ug/L	51100	10000	10000	60200	57400	90	62	75-125	5	20	P6

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655942
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3023837 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	12/21/21 23:49	
Manganese, Dissolved	ug/L	ND	10.0	12/21/21 23:49	
Molybdenum, Dissolved	ug/L	ND	10.0	12/21/21 23:49	

LABORATORY CONTROL SAMPLE: 3023838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Manganese, Dissolved	ug/L	1000	956	96	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3023839 3023840

Parameter	Units	50304634002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	<20.0	1000	1000	1100	1100	109	109	75-125	0	20	
Manganese, Dissolved	ug/L	<10.0	1000	1000	941	951	94	95	75-125	1	20	
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	1040	1040	104	104	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3023841 3023842

Parameter	Units	50305003001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	<20.0	1000	1000	1090	1100	109	110	75-125	1	20	
Manganese, Dissolved	ug/L	173	1000	1000	1100	1110	93	94	75-125	1	20	
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	1040	1050	104	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654698
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3018114 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	12/14/21 20:20	
Arsenic	ug/L	ND	1.0	12/14/21 20:20	
Beryllium	ug/L	ND	0.20	12/14/21 20:20	
Cobalt	ug/L	ND	1.0	12/14/21 20:20	
Selenium	ug/L	ND	1.0	12/14/21 20:20	
Thallium	ug/L	ND	1.0	12/14/21 20:20	

LABORATORY CONTROL SAMPLE: 3018115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.8	107	80-120	
Arsenic	ug/L	40	40.3	101	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cobalt	ug/L	40	40.9	102	80-120	
Selenium	ug/L	40	42.7	107	80-120	
Thallium	ug/L	40	40.6	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018116 3018117

Parameter	Units	50304779001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.20J	40	40	42.6	43.5	106	108	75-125	2	20	
Arsenic	ug/L	6.9	40	40	47.5	47.7	101	102	75-125	1	20	
Beryllium	ug/L	ND	40	40	42.6	43.2	107	108	75-125	1	20	
Cobalt	ug/L	2.8	40	40	43.8	44.0	103	103	75-125	0	20	
Selenium	ug/L	ND	40	40	40.1	41.0	100	102	75-125	2	20	
Thallium	ug/L	ND	40	40	43.5	44.6	109	111	75-125	3	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654206 | Analysis Method: EPA 6020
QC Batch Method: EPA 200.2 | Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3015845 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	12/13/21 02:19	

LABORATORY CONTROL SAMPLE: 3015846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	39.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3015847 3015848

Parameter	Units	50304706006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	40	40	39.7	39.5	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655412 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3021606 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	12/17/21 12:01	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	12/17/21 12:01	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	12/17/21 12:01	

LABORATORY CONTROL SAMPLE: 3021607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.3	107	90-110	

SAMPLE DUPLICATE: 3021608

Parameter	Units	50304706006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	422	422	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	422	422	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3021609

Parameter	Units	50304779001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	653	641	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	653	641	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654342 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003

METHOD BLANK: 3016941 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/11/21 10:16	

LABORATORY CONTROL SAMPLE: 3016942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	306	102	80-120	

SAMPLE DUPLICATE: 3016943

Parameter	Units	50304706006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	321	325	1	10	

SAMPLE DUPLICATE: 3016944

Parameter	Units	50304779001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1040	3	10	

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

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: 50304775004

METHOD BLANK: 3016945 Matrix: Water
Associated Lab Samples: 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654215
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: 50304775001, 50304775002, 50304775003, 50304775004

SAMPLE DUPLICATE: 3015898

Parameter	Units	50303895001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3015899

Parameter	Units	50304194002 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 Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654586 | 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: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3017706 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654971 — Analysis Method: HACH 8146
QC Batch Method: HACH 8146 — Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3019210 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 654002
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: 50304775001, 50304775002

METHOD BLANK: 3014776 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	12/09/21 17:55	
Nitrogen, Nitrite	mg/L	ND	0.10	12/09/21 17:55	

LABORATORY CONTROL SAMPLE: 3014777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	105	90-110	
Nitrogen, Nitrite	mg/L	1	0.95	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014778 3014779

Parameter	Units	50304691003 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	0.27	1	1	1.3	1.3	105	105	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.94	0.94	93	94	90-110	0	20	

MATRIX SPIKE SAMPLE: 3014780

Parameter	Units	50304704003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	<0.10	1	0.89	88	90-110	
Nitrogen, Nitrite	mg/L	<0.10	1	0.87	86	90-110	M0

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

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: 50304775003, 50304775004

METHOD BLANK: 3014790 Matrix: Water
Associated Lab Samples: 50304775003, 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655916
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: 50304775001

METHOD BLANK: 3023767 Matrix: Water
Associated Lab Samples: 50304775001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	12/22/21 10:08	

LABORATORY CONTROL SAMPLE: 3023768

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3023769 3023770

Parameter	Units	50304699001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	2.1			9.1	8.9				3		

MATRIX SPIKE SAMPLE: 3023771

Parameter	Units	50305226002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	250		393			

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655918 | 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: 50304775002, 50304775003, 50304775004

METHOD BLANK: 3023776 Matrix: Water
Associated Lab Samples: 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	12/22/21 10:27	

LABORATORY CONTROL SAMPLE: 3023777

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3023778 3023779

Parameter	Units	50304729001 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	1040			1190	1170				2		

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QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655858 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3023576 — Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	12/20/21 19:07	

LABORATORY CONTROL SAMPLE: 3023577

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: 3023578 3023579

Parameter	Units	50304775004 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	10.8	10.6	98	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 3023580

Parameter	Units	50304819004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	0.88J	10	10.7	98	80-120	

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

QC Batch: 655357 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 3021175 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

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	

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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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-30D2 **Lab ID: 50304775001** Collected: 12/08/21 15:41 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	**2.30 ± 1.02 (1.08) C:NA T:84%**	pCi/L	01/22/22 13:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.959 ± 0.628 (1.20) C:69% T:87%**	pCi/L	01/19/22 17:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.26 ± 1.65 (2.28)**	pCi/L	01/24/22 11:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-32D2 **Lab ID: 50304775002** Collected: 12/08/21 13:28 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	**1.38 ± 0.759 (0.880) C:NA T:93%**	pCi/L	01/22/22 13:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.32 ± 0.623 (1.03) C:69% T:83%**	pCi/L	01/19/22 17:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.70 ± 1.38 (1.91)**	pCi/L	01/24/22 11:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-34SS **Lab ID: 50304775003** Collected: 12/08/21 10:52 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	**0.413 ± 0.536 (0.859) C:NA T:95%**	pCi/L	01/22/22 13:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.28 ± 0.631 (1.08) C:67% T:89%**	pCi/L	01/19/22 17:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.69 ± 1.17 (1.94)**	pCi/L	01/24/22 11:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Sample: MW-35SS **Lab ID: 50304775004** Collected: 12/09/21 11:28 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	**1.97 ± 1.00 (0.862) C:NA T:94%**	pCi/L	01/22/22 13:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.746 ± 0.899 (1.90) C:65% T:83%**	pCi/L	01/19/22 17:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.72 ± 1.90 (2.76)**	pCi/L	01/24/22 11:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

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: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 2312053 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

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: 50304775001, 50304775002, 50304775003, 50304775004

METHOD BLANK: 2312052 Matrix: Water
Associated Lab Samples: 50304775001, 50304775002, 50304775003, 50304775004

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

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: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50304775001	**MW-30D2**	EPA 9056	654560		
50304775002	**MW-32D2**	EPA 9056	654560		
50304775003	**MW-34SS**	EPA 9056	654560		
50304775004	**MW-35SS**	EPA 9056	654560		
50304775001	**MW-30D2**	EPA 3010	655385	EPA 6010	656210
50304775002	**MW-32D2**	EPA 3010	655385	EPA 6010	656210
50304775003	**MW-34SS**	EPA 3010	655385	EPA 6010	656210
50304775004	**MW-35SS**	EPA 3010	655385	EPA 6010	656210
50304775001	**MW-30D2**	EPA 3010	655942	EPA 6010	656114
50304775002	**MW-32D2**	EPA 3010	655942	EPA 6010	656114
50304775003	**MW-34SS**	EPA 3010	655942	EPA 6010	656114
50304775004	**MW-35SS**	EPA 3010	655942	EPA 6010	656114
50304775001	**MW-30D2**	EPA 200.2	654698	EPA 6020	654800
50304775002	**MW-32D2**	EPA 200.2	654698	EPA 6020	654800
50304775003	**MW-34SS**	EPA 200.2	654698	EPA 6020	654800
50304775004	**MW-35SS**	EPA 200.2	654698	EPA 6020	654800
50304775001	**MW-30D2**	EPA 200.2	654206	EPA 6020	654430
50304775002	**MW-32D2**	EPA 200.2	654206	EPA 6020	654430
50304775003	**MW-34SS**	EPA 200.2	654206	EPA 6020	654430
50304775004	**MW-35SS**	EPA 200.2	654206	EPA 6020	654430
50304775001	**MW-30D2**	EPA 903.1	478384		
50304775002	**MW-32D2**	EPA 903.1	478384		
50304775003	**MW-34SS**	EPA 903.1	478384		
50304775004	**MW-35SS**	EPA 903.1	478384		
50304775001	**MW-30D2**	EPA 904.0	478385		
50304775002	**MW-32D2**	EPA 904.0	478385		
50304775003	**MW-34SS**	EPA 904.0	478385		
50304775004	**MW-35SS**	EPA 904.0	478385		
50304775001	**MW-30D2**	Total Radium Calculation	480450		
50304775002	**MW-32D2**	Total Radium Calculation	480450		
50304775003	**MW-34SS**	Total Radium Calculation	480450		
50304775004	**MW-35SS**	Total Radium Calculation	480450		
50304775001	**MW-30D2**	SM 2320B	655412		
50304775002	**MW-32D2**	SM 2320B	655412		
50304775003	**MW-34SS**	SM 2320B	655412		
50304775004	**MW-35SS**	SM 2320B	655412		
50304775001	**MW-30D2**	SM 2540C	654342		
50304775002	**MW-32D2**	SM 2540C	654342		
50304775003	**MW-34SS**	SM 2540C	654342		
50304775004	**MW-35SS**	SM 2540C	654343		
50304775001	**MW-30D2**	SM 4500-H+B	654215		
50304775002	**MW-32D2**	SM 4500-H+B	654215		
50304775003	**MW-34SS**	SM 4500-H+B	654215		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg LF N&E Wells
Pace Project No.: 50304775

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50304775004	**MW-35SS**	SM 4500-H+B	654215		
50304775001	**MW-30D2**	SM 4500-S2-D	654586		
50304775002	**MW-32D2**	SM 4500-S2-D	654586		
50304775003	**MW-34SS**	SM 4500-S2-D	654586		
50304775004	**MW-35SS**	SM 4500-S2-D	654586		
50304775001	**MW-30D2**	HACH 8146	654971		
50304775002	**MW-32D2**	HACH 8146	654971		
50304775003	**MW-34SS**	HACH 8146	654971		
50304775004	**MW-35SS**	HACH 8146	654971		
50304775001	**MW-30D2**	EPA 353.2	654002		
50304775002	**MW-32D2**	EPA 353.2	654002		
50304775003	**MW-34SS**	EPA 353.2	654003		
50304775004	**MW-35SS**	EPA 353.2	654003		
50304775001	**MW-30D2**	EPA 365.1	655916	EPA 365.1	656156
50304775002	**MW-32D2**	EPA 365.1	655918	EPA 365.1	656158
50304775003	**MW-34SS**	EPA 365.1	655918	EPA 365.1	656158
50304775004	**MW-35SS**	EPA 365.1	655918	EPA 365.1	656158
50304775001	**MW-30D2**	SM 5310C	655858		
50304775002	**MW-32D2**	SM 5310C	655858		
50304775003	**MW-34SS**	SM 5310C	655858		
50304775004	**MW-35SS**	SM 5310C	655858		
50304775001	**MW-30D2**	SM 5310C	655357		
50304775002	**MW-32D2**	SM 5310C	655357		
50304775003	**MW-34SS**	SM 5310C	655357		
50304775004	**MW-35SS**	SM 5310C	655357		

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WO# : 50304775

50304775

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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.c

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ATC Group Services	Report To: Rob Duncan	Attention: Acounts Payable - Paula Sedam
Address: 7988 Centerpoint Drive	Copy To: Mark Breting	Company Name: ATC Group Services
Indianapolis, IN 46256		Address:
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote: Level 4
Phone: (317)649-2936 Fax:	Project Name: AES Petersburg Landfill N&E Wells	Pace Project Manager: hayden.putt@pacelabs.com,
Requested Due Date:	Project #: 170LF01166	Pace Profile #: 6246 / 31

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 + 2nAcetate	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-35D1~~ MW-30D2	WT	G			12/8/21	1541		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
14	~~MW-35SS~~ MW-32D2	WT	G			↓	1328		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003
15	~~MW-35D2~~ MW-34SS	WT	G			↓	1052		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003
16	MW-35SS	WT	G			12/9/21	1128		10	3	3	3		1					X	X	X	X	X		X	X	X	X	X		004
17																															
18																															
19																															
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23																															
24																															

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, Cr, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	[signature]	1532		[signature]	12-9-21	15:32	0.5	y	y	y
6020 (Be, Co, As, Se, Sb, Tl)							0.0			
** Dissolved FF 6010 (Mo, Mn, Li) 6020 As										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: [signature] 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			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

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	

FEBRUARY 2022

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

May 10, 2022

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

RE: Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Dear Mr. Duncan:

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

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Pace Analytical Services, LLC
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(317)228-3100

CERTIFICATIONS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

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 P5R1
Pace Project No.: 50308515

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50308515001	**MW-31D2**	Water	02/07/22 13:20	02/07/22 17:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50308515001	**MW-31D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	CAW	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 2320B	TAY	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
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	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

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308515001	**MW-31D2**					
EPA 9056	Chloride	11.6	mg/L	2.5	02/08/22 14:40	
EPA 9056	Fluoride	0.87	mg/L	0.10	02/08/22 14:22	
EPA 9056	Sulfate	6.1	mg/L	0.25	02/08/22 14:22	
EPA 6010	Aluminum	6140	ug/L	200	02/15/22 00:18	
EPA 6010	Barium	296	ug/L	10.0	02/15/22 00:18	
EPA 6010	Boron	1200	ug/L	100	02/15/22 00:18	
EPA 6010	Calcium	14800	ug/L	1000	02/15/22 00:18	
EPA 6010	Iron	5800	ug/L	100	02/15/22 00:18	
EPA 6010	Lithium	23.9	ug/L	20.0	02/15/22 00:18	
EPA 6010	Magnesium	5050	ug/L	1000	02/15/22 00:18	
EPA 6010	Manganese	139	ug/L	10.0	02/15/22 00:18	
EPA 6010	Potassium	3800	ug/L	1000	02/15/22 00:18	
EPA 6010	Silica	22600	ug/L	450	02/15/22 00:18	N2
EPA 6010	Sodium	102000	ug/L	1000	02/15/22 00:18	
EPA 6010	Lithium, Dissolved	21.2	ug/L	20.0	02/09/22 00:05	
EPA 6010	Manganese, Dissolved	39.3	ug/L	10.0	02/09/22 00:05	
EPA 6020	Arsenic	1.8	ug/L	1.0	02/08/22 21:35	
EPA 6020	Beryllium	0.28	ug/L	0.20	02/08/22 21:35	
EPA 6020	Cobalt	2.5	ug/L	1.0	02/08/22 21:35	
EPA 903.1	Radium-226	0.392 ± 0.630 (1.09) C:NA T:96%	pCi/L		03/01/22 14:05	
EPA 904.0	Radium-228	0.425 ± 0.343 (0.678) C:81% T:78%	pCi/L		02/28/22 11:08	
Total Radium Calculation	Total Radium	0.817 ± 0.973 (1.77)	pCi/L		03/02/22 17:41	
SM 2320B	Alkalinity, Total as CaCO3	250	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	244	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Carbonate (CaCO3)	6.6	mg/L	2.0	02/10/22 15:31	
SM 2540C	Total Dissolved Solids	290	mg/L	10.0	02/08/22 13:50	
SM 4500-H+B	pH at 25 Degrees C	8.1	Std. Units	0.10	02/08/22 12:01	H3
EPA 365.1	Phosphate as P04	0.64	mg/L	0.15	02/08/22 15:31	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Sample: MW-31D2 **Lab ID: 50308515001** Collected: 02/07/22 13:20 Received: 02/07/22 17:30 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	**11.6**	mg/L	2.5	10		02/08/22 14:40	16887-00-6	
Fluoride	**0.87**	mg/L	0.10	1		02/08/22 14:22	16984-48-8	
Sulfate	**6.1**	mg/L	0.25	1		02/08/22 14:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**6140**	ug/L	200	1	02/12/22 13:15	02/15/22 00:18	7429-90-5	
Barium	**296**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:18	7440-39-3	
Boron	**1200**	ug/L	100	1	02/12/22 13:15	02/15/22 00:18	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/12/22 13:15	02/15/22 00:18	7440-43-9	
Calcium	**14800**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:18	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:18	7440-47-3	
Iron	**5800**	ug/L	100	1	02/12/22 13:15	02/15/22 00:18	7439-89-6	
Lead	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:18	7439-92-1	
Lithium	**23.9**	ug/L	20.0	1	02/12/22 13:15	02/15/22 00:18	7439-93-2	
Magnesium	**5050**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:18	7439-95-4	
Manganese	**139**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:18	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:18	7439-98-7	
Potassium	**3800**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:18	7440-09-7	
Silica	**22600**	ug/L	450	1	02/12/22 13:15	02/15/22 00:18	7631-86-9	N2
Sodium	**102000**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:18	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**21.2**	ug/L	20.0	1	02/08/22 14:08	02/09/22 00:05	7439-93-2	
Manganese, Dissolved	**39.3**	ug/L	10.0	1	02/08/22 14:08	02/09/22 00:05	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/08/22 14:08	02/09/22 00:05	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:35	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:35	7440-38-2	
Beryllium	**0.28**	ug/L	0.20	1	02/07/22 21:15	02/08/22 21:35	7440-41-7	
Cobalt	**2.5**	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:35	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:35	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	02/07/22 21:15	02/08/22 21:49	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**250**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Bicarbonate (CaCO3)	**244**	mg/L	2.0	1		02/10/22 15:31		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Sample: MW-31D2 **Lab ID: 50308515001** Collected: 02/07/22 13:20 Received: 02/07/22 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**6.6**	mg/L	2.0	1		02/10/22 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**290**	mg/L	10.0	1		02/08/22 13:50		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.1**	Std. Units	0.10	1		02/08/22 12:01		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/08/22 14:33	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/08/22 16:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/08/22 16:30	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.64**	mg/L	0.15	1	02/08/22 06:00	02/08/22 15:31		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/09/22 20:37	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/17/22 18:22		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661027
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3044595 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	02/08/22 09:43	
Fluoride	mg/L	ND	0.10	02/08/22 09:43	
Sulfate	mg/L	ND	0.25	02/08/22 09:43	

LABORATORY CONTROL SAMPLE: 3044596

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3045072 3045073

Parameter	Units	50308451003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	71.5	12.5	12.5	84.9	85.3	107	110	80-120	0	15	
Fluoride	mg/L	0.083	0.5	0.5	0.55	0.55	94	93	80-120	1	15	
Sulfate	mg/L	28.4	25	25	52.3	52.6	95	97	80-120	1	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661612
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3047049 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	02/15/22 00:08	
Barium	ug/L	ND	10.0	02/15/22 00:08	
Boron	ug/L	ND	100	02/15/22 00:08	
Cadmium	ug/L	ND	2.0	02/15/22 00:08	
Calcium	ug/L	ND	1000	02/15/22 00:08	
Chromium	ug/L	ND	10.0	02/15/22 00:08	
Iron	ug/L	ND	100	02/15/22 00:08	
Lead	ug/L	ND	10.0	02/15/22 00:08	
Lithium	ug/L	ND	20.0	02/15/22 00:08	
Magnesium	ug/L	ND	1000	02/15/22 00:08	
Manganese	ug/L	ND	10.0	02/15/22 00:08	
Molybdenum	ug/L	ND	10.0	02/15/22 00:08	
Potassium	ug/L	ND	1000	02/15/22 00:08	
Silica	ug/L	ND	450	02/15/22 00:08	N2
Sodium	ug/L	ND	1000	02/15/22 00:08	

LABORATORY CONTROL SAMPLE: 3047050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10700	107	80-120	
Barium	ug/L	1000	1050	105	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	1010	101	80-120	
Calcium	ug/L	10000	10700	107	80-120	
Chromium	ug/L	1000	1050	105	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lead	ug/L	1000	974	97	80-120	
Lithium	ug/L	1000	1070	107	80-120	
Magnesium	ug/L	10000	10000	100	80-120	
Manganese	ug/L	1000	994	99	80-120	
Molybdenum	ug/L	1000	1060	106	80-120	
Potassium	ug/L	10000	10500	105	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10600	106	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047051 3047052

Parameter	Units	50308574001 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	
Barium	ug/L	0.019 mg/L	1000	1000	1050	1070	103	106	75-125	2	20	
Boron	ug/L	0.22 mg/L	1000	1000	1260	1250	104	103	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	
Calcium	ug/L	120 mg/L	10000	10000	134000	129000	135	88	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	1020	1030	102	103	75-125	1	20	
Iron	ug/L	1.8 mg/L	10000	10000	11600	11600	98	98	75-125	0	20	
Lead	ug/L	ND	1000	1000	924	933	92	93	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1070	1100	105	108	75-125	2	20	
Magnesium	ug/L	32.7 mg/L	10000	10000	43600	42200	109	95	75-125	3	20	
Manganese	ug/L	0.032 mg/L	1000	1000	992	997	96	96	75-125	0	20	
Molybdenum	ug/L	ND	1000	1000	1050	1060	105	106	75-125	1	20	
Potassium	ug/L	4.5 mg/L	10000	10000	13900	13800	93	92	75-125	1	20	
Silica	ug/L	8.7 mg/L	10700	10700	17400	19100	81	97	75-125	9	20	N2
Sodium	ug/L	60.7 mg/L	10000	10000	73400	71500	127	108	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661232
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3045307 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	02/08/22 23:49	
Manganese, Dissolved	ug/L	ND	10.0	02/08/22 23:49	
Molybdenum, Dissolved	ug/L	ND	10.0	02/08/22 23:49	

LABORATORY CONTROL SAMPLE: 3045308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	1010	101	80-120	
Manganese, Dissolved	ug/L	1000	954	95	80-120	
Molybdenum, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3045309 3045310

Parameter	Units	50307474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	ND	1000	1000	1060	1070	105	105	75-125	0	20	
Manganese, Dissolved	ug/L	49.8	1000	1000	993	995	94	95	75-125	0	20	
Molybdenum, Dissolved	ug/L	23.5	1000	1000	1050	1050	103	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661030
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3044603 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	02/08/22 14:13	
Arsenic	ug/L	ND	1.0	02/08/22 14:13	
Beryllium	ug/L	ND	0.20	02/08/22 14:13	
Cobalt	ug/L	ND	1.0	02/08/22 14:13	
Selenium	ug/L	ND	1.0	02/08/22 14:13	
Thallium	ug/L	ND	1.0	02/08/22 14:13	

LABORATORY CONTROL SAMPLE: 3044604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.7	104	80-120	
Arsenic	ug/L	40	37.8	95	80-120	
Beryllium	ug/L	40	37.8	95	80-120	
Cobalt	ug/L	40	40.2	101	80-120	
Selenium	ug/L	40	39.1	98	80-120	
Thallium	ug/L	40	40.7	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3044605 3044606

Parameter	Units	50308451001 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	43.6	43.4	109	108	75-125	0	20	
Arsenic	ug/L	10.4	40	40	50.0	48.8	99	96	75-125	2	20	
Beryllium	ug/L	ND	40	40	40.4	40.3	101	101	75-125	0	20	
Cobalt	ug/L	ND	40	40	39.4	39.5	98	98	75-125	0	20	
Selenium	ug/L	ND	40	40	39.8	38.7	99	97	75-125	3	20	
Thallium	ug/L	ND	40	40	42.0	41.7	105	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 660954
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3044348 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	02/08/22 18:52	

LABORATORY CONTROL SAMPLE: 3044349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	36.8	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3044350 3044351

Parameter	Units	50308392015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	<1.0	40	40	38.8	38.5	96	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661578
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3046869 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	02/10/22 15:31	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	02/10/22 15:31	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	02/10/22 15:31	

LABORATORY CONTROL SAMPLE: 3046870

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: 3046871

Parameter	Units	50308548009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	41.8	42.1	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	41.8	42.1	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3046872

Parameter	Units	50308636001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	280	285	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	280	285	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661202
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3045215 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/08/22 13:49	

LABORATORY CONTROL SAMPLE: 3045216

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

SAMPLE DUPLICATE: 3045217

Parameter	Units	50308515001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	290	287	1	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661190
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: 50308515001

SAMPLE DUPLICATE: 3045158

Parameter	Units	50308510001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661131
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: 50308515001

METHOD BLANK: 3044962 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	02/08/22 14:33	

LABORATORY CONTROL SAMPLE: 3044963

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: 3044964 3044965

Parameter	Units	50308463001 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	0.46	92	90	90-110	2	20	

MATRIX SPIKE SAMPLE: 3045259

Parameter	Units	50308515001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	69	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661220
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: 50308515001

METHOD BLANK: 3045254 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.037	02/08/22 16:24	
Nitrogen, Nitrite	mg/L	ND	0.013	02/08/22 16:24	

LABORATORY CONTROL SAMPLE: 3045255

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: 3045256 3045257

Parameter	Units	50308515001 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	103	100	90-110	3	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 P5R1
Pace Project No.: 50308515

QC Batch: 661117
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: 50308515001

METHOD BLANK: 3044913 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	02/08/22 15:22	

LABORATORY CONTROL SAMPLE: 3044914

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

MATRIX SPIKE SAMPLE: 3044915

Parameter	Units	50308039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.19		1.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3044917 3044918

Parameter	Units	50308427007 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			2.8	2.7				2		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 661385
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3045948 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/09/22 17:08	

LABORATORY CONTROL SAMPLE: 3045949

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: 3045950 3045951

Parameter	Units	50308387005 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	0.96	10	10	10.9	10.8	100	98	80-120	1	20	

MATRIX SPIKE SAMPLE: 3045952

Parameter	Units	50308550001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.2	10	13.3	101	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 662618
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308515001

METHOD BLANK: 3051122 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	02/17/22 18:01	

LABORATORY CONTROL SAMPLE: 3051123

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: 3051124 3051125

Parameter	Units	50308814007 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	1.3	10	10	11.5	11.3	102	100	80-120	2	20	

MATRIX SPIKE SAMPLE: 3051126

Parameter	Units	50308617002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.6	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

Sample: MW-31D2 **Lab ID: 50308515001** Collected: 02/07/22 13:20 Received: 02/07/22 17:30 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	**0.392 ± 0.630 (1.09) C:NA T:96%**	pCi/L	03/01/22 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.425 ± 0.343 (0.678) C:81% T:78%**	pCi/L	02/28/22 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.817 ± 0.973 (1.77)**	pCi/L	03/02/22 17:41	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 484750
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: 50308515001

METHOD BLANK: 2344450
Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0856 ± 0.212 (0.477) C:80% T:90%	pCi/L	02/28/22 11:08	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

QC Batch: 484749
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: 50308515001

METHOD BLANK: 2344449 Matrix: Water
Associated Lab Samples: 50308515001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.340 (0.720) C:NA T:95%	pCi/L	03/01/22 14:05	

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QUALIFIERS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308515

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 P5R1
Pace Project No.: 50308515

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308515001	**MW-31D2**	EPA 9056	661027		
50308515001	**MW-31D2**	EPA 3010	661612	EPA 6010	662115
50308515001	**MW-31D2**	EPA 3010	661232	EPA 6010	661296
50308515001	**MW-31D2**	EPA 200.2	661030	EPA 6020	661116
50308515001	**MW-31D2**	EPA 200.2	660954	EPA 6020	661104
50308515001	**MW-31D2**	EPA 903.1	484749		
50308515001	**MW-31D2**	EPA 904.0	484750		
50308515001	**MW-31D2**	Total Radium Calculation	487481		
50308515001	**MW-31D2**	SM 2320B	661578		
50308515001	**MW-31D2**	SM 2540C	661202		
50308515001	**MW-31D2**	SM 4500-H+B	661190		
50308515001	**MW-31D2**	SM 4500-S2-D	661131		
50308515001	**MW-31D2**	EPA 353.2	661220		
50308515001	**MW-31D2**	EPA 365.1	661117	EPA 365.1	661244
50308515001	**MW-31D2**	SM 5310C	661385		
50308515001	**MW-31D2**	SM 5310C	662618		

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WO# : 50308515

50308515

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	Required Client Information:	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: CCR Sampling Profile 5 Report 1	Pace Project Manager: Hayden Putt
Requested Due Date:	9USH	Project #:	Pace Profile #: 8296/13

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 & 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*, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)	
1	~~MW-30D1~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
2	~~MW-30D2~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
3	MW-31D2	WT		2/7	1320				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
4	~~MW-32I~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
5	~~MW-32D1~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
6	~~MW-32D2~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
7	~~MW-33I~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
8	~~MW-33D2~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
9	~~MW-34A~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
10	~~MW-34D1~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
11	~~MW-34SS~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X		
12	~~MW-34D2~~	WT							12	4	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)	P. Greg Hopper			Bailey	2/7/22	1730	2.5	Y	Y	Y
6020 (Be, Co, As, Se, Sb, Tl)	[signature]	2/7/22	1730							
** Dissolved FF 6010 (Mo, Mn); 6020 As										
Alkalinity = (Total , Bicarb & Carb)										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: P. Greg Hopper

SIGNATURE of SAMPLER: [signature]

DATE Signed: 2/7/22

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 1755 2/7/22

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

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

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

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

4. **Cooler Temperature:** 2.2/2.5
Temp should be above freezing to 6°C **(Initial/Corrected)**

5. **Packing Material:** ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

6. **Ice Type:** ☒ Wet ☐ Blue ☐ None

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

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

	Yes	No
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: 1815	
Rush TAT Requested (4 days or less): ASAP	✓	
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:

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		4	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

May 10, 2022

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

RE: Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Dear Mr. Duncan:

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

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

CERTIFICATIONS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

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 P5R1
Pace Project No.: 50308617

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50308617001	**MW-34A**	Water	02/08/22 11:55	02/08/22 15:47
50308617002	**MW-34D1**	Water	02/08/22 12:34	02/08/22 15:47
50308617003	**DUP-1**	Water	02/08/22 08:00	02/08/22 15:47
50308617004	**FIELD BLANK**	Water	02/08/22 12:15	02/08/22 15:47

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50308617001	**MW-34A**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 6020	DMT	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 2320B	TAY	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
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308617002	**MW-34D1**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 6020	DMT	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 2320B	TAY	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
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308617003	**DUP-1**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6010	RAM	3	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 6020	DMT	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308617004	**FIELD BLANK**	EPA 9056	BK1	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	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	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
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	MMS	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: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308617001	**MW-34A**					
EPA 9056	Chloride	2.3	mg/L	0.25	02/09/22 22:25	
EPA 9056	Fluoride	0.16	mg/L	0.10	02/09/22 22:25	
EPA 9056	Sulfate	8.6	mg/L	0.25	02/09/22 22:25	
EPA 6010	Aluminum	1980	ug/L	200	02/15/22 00:55	
EPA 6010	Barium	59.0	ug/L	10.0	02/15/22 00:55	
EPA 6010	Calcium	69100	ug/L	1000	02/15/22 00:55	
EPA 6010	Iron	9680	ug/L	100	02/15/22 00:55	
EPA 6010	Magnesium	25400	ug/L	1000	02/15/22 00:55	
EPA 6010	Manganese	289	ug/L	10.0	02/15/22 00:55	
EPA 6010	Potassium	1860	ug/L	1000	02/15/22 00:55	
EPA 6010	Silica	27700	ug/L	450	02/15/22 00:55	N2
EPA 6010	Sodium	13800	ug/L	1000	02/15/22 00:55	
EPA 6010	Manganese, Dissolved	94.1	ug/L	10.0	02/09/22 16:56	
EPA 6020	Arsenic	6.3	ug/L	1.0	02/14/22 01:51	
EPA 6020	Beryllium	0.30	ug/L	0.20	02/14/22 01:51	
EPA 6020	Cobalt	5.2	ug/L	1.0	02/14/22 01:51	
EPA 6020	Selenium	1.0	ug/L	1.0	02/14/22 01:51	
EPA 6020	Arsenic, Dissolved	1.5	ug/L	1.0	02/15/22 00:16	
EPA 903.1	Radium-226	0.472 ± 0.601 (0.963) C:NA T:97%	pCi/L		03/01/22 11:31	
EPA 904.0	Radium-228	1.34 ± 0.674 (1.19) C:74% T:87%	pCi/L		02/28/22 15:53	
Total Radium Calculation	Total Radium	1.81 ± 1.28 (2.15)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	295	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	295	mg/L	2.0	02/10/22 15:31	
SM 2540C	Total Dissolved Solids	278	mg/L	10.0	02/09/22 11:43	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	02/09/22 11:15	H3
EPA 365.1	Phosphate as P04	0.47	mg/L	0.15	02/14/22 13:04	B0
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	02/17/22 18:41	
50308617002	**MW-34D1**					
EPA 9056	Chloride	6.3	mg/L	0.25	02/09/22 23:14	
EPA 9056	Sulfate	84.4	mg/L	2.5	02/09/22 23:31	
EPA 6010	Barium	171	ug/L	10.0	02/15/22 00:57	
EPA 6010	Calcium	96100	ug/L	1000	02/15/22 00:57	
EPA 6010	Iron	2450	ug/L	100	02/15/22 00:57	
EPA 6010	Magnesium	28500	ug/L	1000	02/15/22 00:57	
EPA 6010	Manganese	770	ug/L	10.0	02/15/22 00:57	
EPA 6010	Potassium	2020	ug/L	1000	02/15/22 00:57	
EPA 6010	Silica	21600	ug/L	450	02/15/22 00:57	N2
EPA 6010	Sodium	11200	ug/L	1000	02/15/22 00:57	
EPA 6010	Manganese, Dissolved	574	ug/L	10.0	02/09/22 16:58	
EPA 6020	Arsenic	1.2	ug/L	1.0	02/14/22 01:56	

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: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308617002	**MW-34D1**					
EPA 6020	Arsenic, Dissolved	1.5	ug/L	1.0	02/15/22 00:20	
EPA 903.1	Radium-226	0.448 ± 0.550 (0.872) C:NA T:96%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	1.06 ± 0.570 (1.01) C:79% T:85%	pCi/L		02/28/22 16:03	
Total Radium Calculation	Total Radium	1.51 ± 1.12 (1.88)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	292	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	292	mg/L	2.0	02/10/22 15:31	
SM 2540C	Total Dissolved Solids	405	mg/L	10.0	02/09/22 11:44	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	02/10/22 11:17	H3
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	02/17/22 18:52	
50308617003	**DUP-1**					
EPA 9056	Chloride	4.0	mg/L	0.25	02/10/22 00:36	
EPA 9056	Sulfate	111	mg/L	2.5	02/10/22 00:52	
EPA 6010	Barium	123	ug/L	10.0	02/15/22 00:59	
EPA 6010	Calcium	104000	ug/L	1000	02/15/22 00:59	
EPA 6010	Iron	3780	ug/L	100	02/15/22 00:59	
EPA 6010	Magnesium	32100	ug/L	1000	02/15/22 00:59	
EPA 6010	Manganese	660	ug/L	10.0	02/15/22 00:59	
EPA 6010	Potassium	1700	ug/L	1000	02/15/22 00:59	
EPA 6010	Silica	21600	ug/L	450	02/15/22 00:59	N2
EPA 6010	Sodium	8000	ug/L	1000	02/15/22 00:59	
EPA 6010	Manganese, Dissolved	622	ug/L	10.0	02/09/22 17:09	
EPA 903.1	Radium-226	0.366 ± 0.576 (0.957) C:NA T:91%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	0.394 ± 0.518 (1.11) C:77% T:87%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	0.760 ± 1.09 (2.07)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	290	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	290	mg/L	2.0	02/10/22 15:31	
SM 2540C	Total Dissolved Solids	428	mg/L	10.0	02/09/22 11:44	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	02/10/22 10:46	H3
50308617004	**FIELD BLANK**					
EPA 903.1	Radium-226	0.0105 ± 0.336 (0.674) C:NA T:99%	pCi/L		03/01/22 11:48	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308617004	**FIELD BLANK**					
EPA 904.0	Radium-228	0.323 ± 0.549 (1.20) C:76% T:86%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	0.334 ± 0.885 (1.87)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	2.9	mg/L	2.0	02/10/22 15:31	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	2.9	mg/L	2.0	02/10/22 15:31	
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	02/10/22 11:15	H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34A **Lab ID: 50308617001** Collected: 02/08/22 11:55 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**2.3**	mg/L	0.25	1		02/09/22 22:25	16887-00-6	
Fluoride	**0.16**	mg/L	0.10	1		02/09/22 22:25	16984-48-8	
Sulfate	**8.6**	mg/L	0.25	1		02/09/22 22:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1980**	ug/L	200	1	02/12/22 13:15	02/15/22 00:55	7429-90-5	
Barium	**59.0**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:55	7440-39-3	
Boron	ND	ug/L	100	1	02/12/22 13:15	02/15/22 00:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/12/22 13:15	02/15/22 00:55	7440-43-9	
Calcium	**69100**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:55	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:55	7440-47-3	
Iron	**9680**	ug/L	100	1	02/12/22 13:15	02/15/22 00:55	7439-89-6	
Lead	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/12/22 13:15	02/15/22 00:55	7439-93-2	
Magnesium	**25400**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:55	7439-95-4	
Manganese	**289**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:55	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:55	7439-98-7	
Potassium	**1860**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:55	7440-09-7	
Silica	**27700**	ug/L	450	1	02/12/22 13:15	02/15/22 00:55	7631-86-9	N2
Sodium	**13800**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	02/09/22 10:52	02/09/22 16:56	7439-93-2	
Manganese, Dissolved	**94.1**	ug/L	10.0	1	02/09/22 10:52	02/09/22 16:56	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/09/22 10:52	02/09/22 16:56	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	02/11/22 09:06	02/14/22 01:51	7440-36-0	
Arsenic	**6.3**	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:51	7440-38-2	
Beryllium	**0.30**	ug/L	0.20	1	02/11/22 09:06	02/14/22 01:51	7440-41-7	
Cobalt	**5.2**	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:51	7440-48-4	
Selenium	**1.0**	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:51	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:51	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.5**	ug/L	1.0	1	02/11/22 09:06	02/15/22 00:16	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**295**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Bicarbonate (CaCO3)	**295**	mg/L	2.0	1		02/10/22 15:31		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34A **Lab ID: 50308617001** Collected: 02/08/22 11:55 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/10/22 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**278**	mg/L	10.0	1		02/09/22 11:43		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		02/09/22 11:15		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/10/22 11:46	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/09/22 16:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/09/22 16:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.47**	mg/L	0.15	1	02/10/22 11:00	02/14/22 13:04		B0
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/11/22 16:48	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		02/17/22 18:41		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34D1 **Lab ID: 50308617002** Collected: 02/08/22 12:34 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**6.3**	mg/L	0.25	1		02/09/22 23:14	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/09/22 23:14	16984-48-8	
Sulfate	**84.4**	mg/L	2.5	10		02/09/22 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	02/12/22 13:15	02/15/22 00:57	7429-90-5	
Barium	**171**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:57	7440-39-3	
Boron	ND	ug/L	100	1	02/12/22 13:15	02/15/22 00:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/12/22 13:15	02/15/22 00:57	7440-43-9	
Calcium	**96100**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:57	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:57	7440-47-3	
Iron	**2450**	ug/L	100	1	02/12/22 13:15	02/15/22 00:57	7439-89-6	
Lead	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/12/22 13:15	02/15/22 00:57	7439-93-2	
Magnesium	**28500**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:57	7439-95-4	
Manganese	**770**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:57	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:57	7439-98-7	
Potassium	**2020**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:57	7440-09-7	
Silica	**21600**	ug/L	450	1	02/12/22 13:15	02/15/22 00:57	7631-86-9	N2
Sodium	**11200**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	02/09/22 10:52	02/09/22 16:58	7439-93-2	
Manganese, Dissolved	**574**	ug/L	10.0	1	02/09/22 10:52	02/09/22 16:58	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/09/22 10:52	02/09/22 16:58	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	02/11/22 09:06	02/14/22 01:56	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:56	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/11/22 09:06	02/14/22 01:56	7440-41-7	
Cobalt	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:56	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:56	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 01:56	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.5**	ug/L	1.0	1	02/11/22 09:06	02/15/22 00:20	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**292**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Bicarbonate (CaCO3)	**292**	mg/L	2.0	1		02/10/22 15:31		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34D1 **Lab ID: 50308617002** Collected: 02/08/22 12:34 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/10/22 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**405**	mg/L	10.0	1		02/09/22 11:44		
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		02/10/22 11:17		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/10/22 11:46	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/09/22 16:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/09/22 16:15	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	02/10/22 11:00	02/14/22 13:06		B0
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/11/22 17:17	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		02/17/22 18:52		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: DUP-1 **Lab ID: 50308617003** Collected: 02/08/22 08:00 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**4.0**	mg/L	0.25	1		02/10/22 00:36	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/10/22 00:36	16984-48-8	
Sulfate	**111**	mg/L	2.5	10		02/10/22 00:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	02/12/22 13:15	02/15/22 00:59	7429-90-5	
Barium	**123**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:59	7440-39-3	
Boron	ND	ug/L	100	1	02/12/22 13:15	02/15/22 00:59	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/12/22 13:15	02/15/22 00:59	7440-43-9	
Calcium	**104000**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:59	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:59	7440-47-3	
Iron	**3780**	ug/L	100	1	02/12/22 13:15	02/15/22 00:59	7439-89-6	
Lead	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:59	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/12/22 13:15	02/15/22 00:59	7439-93-2	
Magnesium	**32100**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:59	7439-95-4	
Manganese	**660**	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:59	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:59	7439-98-7	
Potassium	**1700**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:59	7440-09-7	
Silica	**21600**	ug/L	450	1	02/12/22 13:15	02/15/22 00:59	7631-86-9	N2
Sodium	**8000**	ug/L	1000	1	02/12/22 13:15	02/15/22 00:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	02/09/22 10:52	02/09/22 17:09	7439-93-2	
Manganese, Dissolved	**622**	ug/L	10.0	1	02/09/22 10:52	02/09/22 17:09	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/09/22 10:52	02/09/22 17:09	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	02/11/22 09:06	02/14/22 02:00	7440-36-0	
Arsenic	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:00	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/11/22 09:06	02/14/22 02:00	7440-41-7	
Cobalt	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:00	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:00	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	ND	ug/L	1.0	1	02/11/22 09:06	02/15/22 00:24	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**290**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Bicarbonate (CaCO3)	**290**	mg/L	2.0	1		02/10/22 15:31		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: DUP-1 **Lab ID: 50308617003** Collected: 02/08/22 08:00 Received: 02/08/22 15:47 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/10/22 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**428**	mg/L	10.0	1		02/09/22 11:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		02/10/22 10:46		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/10/22 11:46	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/09/22 16:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/09/22 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	ND	mg/L	0.15	1	02/10/22 11:00	02/14/22 13:07		B0
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/11/22 17:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/17/22 19:12		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: FIELD BLANK **Lab ID: 50308617004** Collected: 02/08/22 12:15 Received: 02/08/22 15:47 Matrix: 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		02/10/22 01:25	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/10/22 01:25	16984-48-8	
Sulfate	ND	mg/L	0.25	1		02/10/22 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	02/12/22 13:15	02/15/22 00:10	7429-90-5	
Barium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:10	7440-39-3	
Boron	ND	ug/L	100	1	02/12/22 13:15	02/15/22 00:10	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/12/22 13:15	02/15/22 00:10	7440-43-9	
Calcium	ND	ug/L	1000	1	02/12/22 13:15	02/15/22 00:10	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:10	7440-47-3	
Iron	ND	ug/L	100	1	02/12/22 13:15	02/15/22 00:10	7439-89-6	
Lead	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:10	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/12/22 13:15	02/15/22 00:10	7439-93-2	
Magnesium	ND	ug/L	1000	1	02/12/22 13:15	02/15/22 00:10	7439-95-4	
Manganese	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:10	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/12/22 13:15	02/15/22 00:10	7439-98-7	
Potassium	ND	ug/L	1000	1	02/12/22 13:15	02/15/22 00:10	7440-09-7	
Silica	ND	ug/L	450	1	02/12/22 13:15	02/15/22 00:10	7631-86-9	N2
Sodium	ND	ug/L	1000	1	02/12/22 13:15	02/15/22 00:10	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	02/11/22 09:06	02/14/22 02:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:04	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/11/22 09:06	02/14/22 02:04	7440-41-7	
Cobalt	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:04	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/11/22 09:06	02/14/22 02:04	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**2.9**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Bicarbonate (CaCO3)	**2.9**	mg/L	2.0	1		02/10/22 15:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/10/22 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		02/09/22 11:44		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		02/10/22 11:15		H3

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: FIELD BLANK **Lab ID: 50308617004** Collected: 02/08/22 12:15 Received: 02/08/22 15:47 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		02/10/22 11:46	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/09/22 16:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/09/22 16:13	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	02/10/22 11:00	02/14/22 13:07		B0
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/11/22 17:36	7440-44-0	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661334
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3045788 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	02/10/22 14:42	
Fluoride	mg/L	ND	0.10	02/10/22 14:42	
Sulfate	mg/L	ND	0.25	02/10/22 14:42	

LABORATORY CONTROL SAMPLE: 3045789

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	0.46	92	80-120	
Sulfate	mg/L	2.5	2.4	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3045790 3045791

Parameter	Units	50308641003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	710	125	125	871	868	129	126	80-120	0	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.38	0.38	76	76	80-120	0	15	M0
Sulfate	mg/L	1430	250	250	1730	1740	121	123	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661612
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3047049 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	02/15/22 00:08	
Barium	ug/L	ND	10.0	02/15/22 00:08	
Boron	ug/L	ND	100	02/15/22 00:08	
Cadmium	ug/L	ND	2.0	02/15/22 00:08	
Calcium	ug/L	ND	1000	02/15/22 00:08	
Chromium	ug/L	ND	10.0	02/15/22 00:08	
Iron	ug/L	ND	100	02/15/22 00:08	
Lead	ug/L	ND	10.0	02/15/22 00:08	
Lithium	ug/L	ND	20.0	02/15/22 00:08	
Magnesium	ug/L	ND	1000	02/15/22 00:08	
Manganese	ug/L	ND	10.0	02/15/22 00:08	
Molybdenum	ug/L	ND	10.0	02/15/22 00:08	
Potassium	ug/L	ND	1000	02/15/22 00:08	
Silica	ug/L	ND	450	02/15/22 00:08	N2
Sodium	ug/L	ND	1000	02/15/22 00:08	

LABORATORY CONTROL SAMPLE: 3047050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10700	107	80-120	
Barium	ug/L	1000	1050	105	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	1010	101	80-120	
Calcium	ug/L	10000	10700	107	80-120	
Chromium	ug/L	1000	1050	105	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lead	ug/L	1000	974	97	80-120	
Lithium	ug/L	1000	1070	107	80-120	
Magnesium	ug/L	10000	10000	100	80-120	
Manganese	ug/L	1000	994	99	80-120	
Molybdenum	ug/L	1000	1060	106	80-120	
Potassium	ug/L	10000	10500	105	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10600	106	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047051 3047052

Parameter	Units	50308574001 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	
Barium	ug/L	0.019 mg/L	1000	1000	1050	1070	103	106	75-125	2	20	
Boron	ug/L	0.22 mg/L	1000	1000	1260	1250	104	103	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	
Calcium	ug/L	120 mg/L	10000	10000	134000	129000	135	88	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	1020	1030	102	103	75-125	1	20	
Iron	ug/L	1.8 mg/L	10000	10000	11600	11600	98	98	75-125	0	20	
Lead	ug/L	ND	1000	1000	924	933	92	93	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1070	1100	105	108	75-125	2	20	
Magnesium	ug/L	32.7 mg/L	10000	10000	43600	42200	109	95	75-125	3	20	
Manganese	ug/L	0.032 mg/L	1000	1000	992	997	96	96	75-125	0	20	
Molybdenum	ug/L	ND	1000	1000	1050	1060	105	106	75-125	1	20	
Potassium	ug/L	4.5 mg/L	10000	10000	13900	13800	93	92	75-125	1	20	
Silica	ug/L	8.7 mg/L	10700	10700	17400	19100	81	97	75-125	9	20	N2
Sodium	ug/L	60.7 mg/L	10000	10000	73400	71500	127	108	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661356
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003

METHOD BLANK: 3045868 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	02/09/22 16:26	
Manganese, Dissolved	ug/L	ND	10.0	02/09/22 16:26	
Molybdenum, Dissolved	ug/L	ND	10.0	02/09/22 16:26	

LABORATORY CONTROL SAMPLE: 3045869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	919	92	80-120	
Manganese, Dissolved	ug/L	1000	936	94	80-120	
Molybdenum, Dissolved	ug/L	1000	976	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3045870 3045871

Parameter	Units	50308617002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	ND	1000	1000	966	998	96	99	75-125	3	20	
Manganese, Dissolved	ug/L	574	1000	1000	1460	1530	89	95	75-125	4	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	989	1020	98	102	75-125	3	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661690
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3047528 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	02/14/22 01:39	
Arsenic	ug/L	ND	1.0	02/14/22 01:39	
Beryllium	ug/L	ND	0.20	02/14/22 01:39	
Cobalt	ug/L	ND	1.0	02/14/22 01:39	
Selenium	ug/L	ND	1.0	02/14/22 01:39	
Thallium	ug/L	ND	1.0	02/14/22 01:39	

LABORATORY CONTROL SAMPLE: 3047529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	43.1	108	80-120	
Arsenic	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	40.3	101	80-120	
Selenium	ug/L	40	40.5	101	80-120	
Thallium	ug/L	40	41.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047530 3047531

Parameter	Units	50308668001 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	43.2	42.1	108	105	75-125	2	20	
Arsenic	ug/L	<2.0	40	40	39.4	38.5	98	96	75-125	2	20	
Beryllium	ug/L	<1.0	40	40	41.5	40.4	104	101	75-125	3	20	
Cobalt	ug/L	<1.0	40	40	39.6	38.6	98	96	75-125	2	20	
Selenium	ug/L	<1.0	40	40	38.5	38.7	96	97	75-125	1	20	
Thallium	ug/L	<1.0	40	40	41.3	40.6	103	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661648
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003

METHOD BLANK: 3047187 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	02/15/22 00:08	

LABORATORY CONTROL SAMPLE: 3047188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	39.3	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047189 3047190

Parameter	Units	50308636001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	<0.0010 mg/L	40	40	39.0	38.6	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661578
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3046869 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	02/10/22 15:31	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	02/10/22 15:31	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	02/10/22 15:31	

LABORATORY CONTROL SAMPLE: 3046870

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: 3046871

Parameter	Units	50308548009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	41.8	42.1	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	41.8	42.1	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3046872

Parameter	Units	50308636001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	280	285	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	280	285	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661338 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3045800 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/09/22 11:38	

LABORATORY CONTROL SAMPLE: 3045801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	288	96	80-120	

SAMPLE DUPLICATE: 3045802

Parameter	Units	50308630001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2150	1990	8	10	

SAMPLE DUPLICATE: 3045814

Parameter	Units	50308641003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3020	3020	0	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661372
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: 50308617001

SAMPLE DUPLICATE: 3045903

Parameter	Units	50306498003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.1	0	2	H3

SAMPLE DUPLICATE: 3045904

Parameter	Units	50308534001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.4	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661545
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: 50308617002, 50308617003, 50308617004

SAMPLE DUPLICATE: 3046743

Parameter	Units	50308654004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	2	H3

SAMPLE DUPLICATE: 3046744

Parameter	Units	50308687001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661536 | 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: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3046716 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	02/10/22 11:46	

LABORATORY CONTROL SAMPLE: 3046717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.55	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046718 3046719

Parameter	Units	50308560001 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	0.46	90	89	90-110	1	20	M0

MATRIX SPIKE SAMPLE: 3046720

Parameter	Units	50308677001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	97	90-110	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661336
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: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3045795 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.037	02/09/22 16:05	
Nitrogen, Nitrite	mg/L	ND	0.013	02/09/22 16:05	

LABORATORY CONTROL SAMPLE: 3045796

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: 3045797 3045798

Parameter	Units	50308617002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.0	1.0	100	101	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	110	110	90-110	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661519 | 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: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3046670 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	02/14/22 12:54	B0

LABORATORY CONTROL SAMPLE: 3046671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.7			B0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046672 3046673

Parameter	Units	50308472001 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			1.8	1.6				9		B0

MATRIX SPIKE SAMPLE: 3046674

Parameter	Units	50308630001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	57.5		56.2			B0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 661749 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 3047788 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/11/22 14:55	

LABORATORY CONTROL SAMPLE: 3047789

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: 3047790 3047791

Parameter	Units	50308636003 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	0.98	10	10	10.9	10.8	99	98	80-120	1	20	

MATRIX SPIKE SAMPLE: 3047792

Parameter	Units	50308654002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	18.8	40	59.0	100	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 662618 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308617001, 50308617002, 50308617003

METHOD BLANK: 3051122 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	02/17/22 18:01	

LABORATORY CONTROL SAMPLE: 3051123

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: 3051124 3051125

Parameter	Units	50308814007 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	1.3	10	10	11.5	11.3	102	100	80-120	2	20	

MATRIX SPIKE SAMPLE: 3051126

Parameter	Units	50308617002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.6	95	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34A **Lab ID: 50308617001** Collected: 02/08/22 11:55 Received: 02/08/22 15:47 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.472 ± 0.601 (0.963) C:NA T:97%**	pCi/L	03/01/22 11:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.34 ± 0.674 (1.19) C:74% T:87%**	pCi/L	02/28/22 15:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.81 ± 1.28 (2.15)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: MW-34D1 **Lab ID: 50308617002** Collected: 02/08/22 12:34 Received: 02/08/22 15:47 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.448 ± 0.550 (0.872) C:NA T:96%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.06 ± 0.570 (1.01) C:79% T:85%**	pCi/L	02/28/22 16:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.51 ± 1.12 (1.88)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: DUP-1 **Lab ID: 50308617003** Collected: 02/08/22 08:00 Received: 02/08/22 15:47 Matrix: Water
PWS: Site 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 ± 0.576 (0.957) C:NA T:91%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.394 ± 0.518 (1.11) C:77% T:87%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.760 ± 1.09 (2.07)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Sample: FIELD BLANK **Lab ID: 50308617004** Collected: 02/08/22 12:15 Received: 02/08/22 15:47 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0105 ± 0.336 (0.674) C:NA T:99%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.323 ± 0.549 (1.20) C:76% T:86%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.334 ± 0.885 (1.87)**	pCi/L	03/02/22 17:45	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 484745
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: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 2344437 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0242 ± 0.272 (0.646) C:77% T:87%	pCi/L	02/28/22 12:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

QC Batch: 484744
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: 50308617001, 50308617002, 50308617003, 50308617004

METHOD BLANK: 2344436 Matrix: Water
Associated Lab Samples: 50308617001, 50308617002, 50308617003, 50308617004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.222 ± 0.274 (0.648) C:NA T:102%	pCi/L	03/01/22 11:31	

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QUALIFIERS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 662002

[B0]	Analyte was detected in an associated blank at a concentration greater than the MDL.

ANALYTE QUALIFIERS

B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
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.
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 P5R1
Pace Project No.: 50308617

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308617001	**MW-34A**	EPA 9056	661334		
50308617002	**MW-34D1**	EPA 9056	661334		
50308617003	**DUP-1**	EPA 9056	661334		
50308617004	**FIELD BLANK**	EPA 9056	661334		
50308617001	**MW-34A**	EPA 3010	661612	EPA 6010	662115
50308617002	**MW-34D1**	EPA 3010	661612	EPA 6010	662115
50308617003	**DUP-1**	EPA 3010	661612	EPA 6010	662115
50308617004	**FIELD BLANK**	EPA 3010	661612	EPA 6010	662115
50308617001	**MW-34A**	EPA 3010	661356	EPA 6010	661454
50308617002	**MW-34D1**	EPA 3010	661356	EPA 6010	661454
50308617003	**DUP-1**	EPA 3010	661356	EPA 6010	661454
50308617001	**MW-34A**	EPA 200.2	661690	EPA 6020	661854
50308617002	**MW-34D1**	EPA 200.2	661690	EPA 6020	661854
50308617003	**DUP-1**	EPA 200.2	661690	EPA 6020	661854
50308617004	**FIELD BLANK**	EPA 200.2	661690	EPA 6020	661854
50308617001	**MW-34A**	EPA 200.2	661648	EPA 6020	661853
50308617002	**MW-34D1**	EPA 200.2	661648	EPA 6020	661853
50308617003	**DUP-1**	EPA 200.2	661648	EPA 6020	661853
50308617001	**MW-34A**	EPA 903.1	484744		
50308617002	**MW-34D1**	EPA 903.1	484744		
50308617003	**DUP-1**	EPA 903.1	484744		
50308617004	**FIELD BLANK**	EPA 903.1	484744		
50308617001	**MW-34A**	EPA 904.0	484745		
50308617002	**MW-34D1**	EPA 904.0	484745		
50308617003	**DUP-1**	EPA 904.0	484745		
50308617004	**FIELD BLANK**	EPA 904.0	484745		
50308617001	**MW-34A**	Total Radium Calculation	487497		
50308617002	**MW-34D1**	Total Radium Calculation	487497		
50308617003	**DUP-1**	Total Radium Calculation	487497		
50308617004	**FIELD BLANK**	Total Radium Calculation	487497		
50308617001	**MW-34A**	SM 2320B	661578		
50308617002	**MW-34D1**	SM 2320B	661578		
50308617003	**DUP-1**	SM 2320B	661578		
50308617004	**FIELD BLANK**	SM 2320B	661578		
50308617001	**MW-34A**	SM 2540C	661338		
50308617002	**MW-34D1**	SM 2540C	661338		
50308617003	**DUP-1**	SM 2540C	661338		
50308617004	**FIELD BLANK**	SM 2540C	661338		
50308617001	**MW-34A**	SM 4500-H+B	661372		
50308617002	**MW-34D1**	SM 4500-H+B	661545		
50308617003	**DUP-1**	SM 4500-H+B	661545		
50308617004	**FIELD BLANK**	SM 4500-H+B	661545		
50308617001	**MW-34A**	SM 4500-S2-D	661536		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308617

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308617002	**MW-34D1**	SM 4500-S2-D	661536		
50308617003	**DUP-1**	SM 4500-S2-D	661536		
50308617004	**FIELD BLANK**	SM 4500-S2-D	661536		
50308617001	**MW-34A**	EPA 353.2	661336		
50308617002	**MW-34D1**	EPA 353.2	661336		
50308617003	**DUP-1**	EPA 353.2	661336		
50308617004	**FIELD BLANK**	EPA 353.2	661336		
50308617001	**MW-34A**	EPA 365.1	661519	EPA 365.1	662002
50308617002	**MW-34D1**	EPA 365.1	661519	EPA 365.1	662002
50308617003	**DUP-1**	EPA 365.1	661519	EPA 365.1	662002
50308617004	**FIELD BLANK**	EPA 365.1	661519	EPA 365.1	662002
50308617001	**MW-34A**	SM 5310C	661749		
50308617002	**MW-34D1**	SM 5310C	661749		
50308617003	**DUP-1**	SM 5310C	661749		
50308617004	**FIELD BLANK**	SM 5310C	661749		
50308617001	**MW-34A**	SM 5310C	662618		
50308617002	**MW-34D1**	SM 5310C	662618		
50308617003	**DUP-1**	SM 5310C	662618		

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WO# : 50308617

50308617

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

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:	Regulatory Agency:
Phone: (812)354-8801 Fax:	Project Name: CCR Sampling Profile 5 Report 1	Pace Project Manager: Hayden Putt	State / Location: IN
Requested Due Date:	Project #:	Pace Profile #: 8296/13	

MATRIX CODES: 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*, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)	
13	~~MW-33A~~ MW-34A	WT		~~2.8.22~~		2.8.22	1155		12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		001
14	~~MW-33D~~ MW-34D 1	WT					1234		12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		002
15	~~MW-33D~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		
16	DUP 1	WT					—		12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		003
17	~~MW-33D~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		
18	FIELD BLANK	WT					1215		~~12~~ 10	4	~~2~~ 2	~~4~~ 3		1					X	X	X	X	X	X	X	X	X	X		004
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, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	J Hall / ATLS	2.8.22	1547	R. Clemmer	2-8-22	15:47	1.8	y	N	y
6020 (Be, Co, As, Se, Sb, Tl)							0.6			
** Dissolved FF 6010 (Mo, Mn); 6020 As										
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:	Jon Hall					
SIGNATURE of SAMPLER:	J Hall	DATE Signed: 2.8.22				

* No Field Filter on Field Blank *

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 2-8-22 16:03

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

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

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

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

4. **Cooler Temperature:** 1.8/1.8 C),6/0.6
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:** NO_3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 17:00	✓
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?			✓
Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Trip Blank Present?		✓	
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												1	1			1		1	1	1	1		1					1	1	1	
3																															
4												2	1			2		4	1	1	1		1					WT	✓	✓	
5																															
6												1				2		4	1		1		1					WT	✓	✓	
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

May 11, 2022

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

RE: Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 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
hayden.putt@pacelabs.com
(317)228-3145
Project Manager

Enclosures

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

CERTIFICATIONS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

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
Indianapolis, IN 46268
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SAMPLE SUMMARY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50308814001	**MW-34D2**	Water	02/09/22 09:20	02/10/22 09:45
50308814002	**MW-30D2**	Water	02/09/22 13:15	02/10/22 09:45
50308814003	**MW-35D2**	Water	02/09/22 10:05	02/10/22 09:45
50308814004	**MW-35D1**	Water	02/09/22 11:25	02/10/22 09:45
50308814005	**MW-32D1**	Water	02/09/22 17:00	02/10/22 09:45
50308814006	**MW-32D2**	Water	02/09/22 15:30	02/10/22 09:45
50308814007	**MW-33I**	Water	02/09/22 09:00	02/10/22 09:45
50308814008	**MW-33D2**	Water	02/09/22 11:20	02/10/22 09:45
50308814009	**MW-33I RAD MS**	Water	02/09/22 09:00	02/10/22 09:45
50308814010	**MW-33I RAD MSD**	Water	02/09/22 09:00	02/10/22 09:45

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50308814001	**MW-34D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814002	**MW-30D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814003	**MW-35D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

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	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814004	**MW-35D1**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814005	**MW-32D1**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	MMS	1	PASI-I
50308814006	**MW-32D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814007	**MW-33I**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814008	**MW-33D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	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

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

SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	SKK	1	PASI-I
		SM 5310C	MMS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308814009	**MW-33I RAD MS**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50308814010	**MW-33I RAD MSD**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814001	**MW-34D2**					
EPA 9056	Chloride	16.6	mg/L	2.5	02/11/22 09:47	
EPA 9056	Fluoride	1.9	mg/L	0.10	02/11/22 09:31	
EPA 9056	Sulfate	7.5	mg/L	0.25	02/11/22 09:31	
EPA 6010	Aluminum	8500	ug/L	200	02/21/22 14:18	
EPA 6010	Barium	126	ug/L	10.0	02/21/22 14:18	
EPA 6010	Boron	952	ug/L	100	02/21/22 14:18	
EPA 6010	Calcium	5020	ug/L	1000	02/21/22 14:18	
EPA 6010	Chromium	12.8	ug/L	10.0	02/21/22 14:18	
EPA 6010	Iron	4860	ug/L	100	02/21/22 14:18	
EPA 6010	Lithium	21.2	ug/L	20.0	02/21/22 14:18	
EPA 6010	Magnesium	1820	ug/L	1000	02/21/22 14:18	
EPA 6010	Manganese	123	ug/L	10.0	02/21/22 14:18	
EPA 6010	Potassium	3990	ug/L	1000	02/21/22 14:18	
EPA 6010	Silica	28400	ug/L	450	02/21/22 14:18	N2
EPA 6010	Sodium	161000	ug/L	1000	02/21/22 14:18	
EPA 6010	Manganese, Dissolved	18.1	ug/L	10.0	02/15/22 23:21	
EPA 6020	Arsenic	1.6	ug/L	1.0	02/15/22 04:05	
EPA 6020	Beryllium	0.38	ug/L	0.20	02/15/22 04:05	
EPA 6020	Cobalt	1.9	ug/L	1.0	02/15/22 04:05	
EPA 6020	Selenium	1.8	ug/L	1.0	02/15/22 04:05	
EPA 903.1	Radium-226	1.31 ± 0.764 (0.958) C:NA T:96%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	0.363 ± 0.577 (1.25) C:79% T:87%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	1.67 ± 1.34 (2.21)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	322	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	290	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Carbonate (CaCO3)	31.2	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	470	mg/L	10.0	02/11/22 12:37	
SM 4500-H+B	pH at 25 Degrees C	9.0	Std. Units	0.10	02/15/22 14:47	H3
EPA 365.1	Phosphate as P04	1.1	mg/L	0.15	02/16/22 17:48	B0
50308814002	**MW-30D2**					
EPA 9056	Chloride	13.5	mg/L	2.5	02/11/22 10:36	
EPA 9056	Fluoride	0.91	mg/L	0.10	02/11/22 10:20	
EPA 9056	Sulfate	6.8	mg/L	0.25	02/11/22 10:20	
EPA 6010	Aluminum	5080	ug/L	200	02/21/22 12:47	
EPA 6010	Barium	91.3	ug/L	10.0	02/21/22 12:47	
EPA 6010	Boron	781	ug/L	100	02/21/22 12:47	
EPA 6010	Calcium	5020	ug/L	1000	02/21/22 12:47	
EPA 6010	Chromium	29.7	ug/L	10.0	02/21/22 12:47	
EPA 6010	Iron	5140	ug/L	100	02/21/22 12:47	
EPA 6010	Magnesium	2090	ug/L	1000	02/21/22 12:47	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814002	**MW-30D2**					
EPA 6010	Manganese	102	ug/L	10.0	02/21/22 12:47	
EPA 6010	Molybdenum	36.2	ug/L	10.0	02/21/22 12:47	
EPA 6010	Potassium	4570	ug/L	1000	02/21/22 12:47	
EPA 6010	Silica	19100	ug/L	450	02/21/22 12:47	N2
EPA 6010	Sodium	141000	ug/L	1000	02/21/22 12:47	
EPA 6010	Manganese, Dissolved	12.4	ug/L	10.0	02/15/22 23:23	
EPA 6010	Molybdenum, Dissolved	31.5	ug/L	10.0	02/15/22 23:23	
EPA 6020	Antimony	3.0	ug/L	1.0	02/15/22 04:09	
EPA 6020	Arsenic	2.4	ug/L	1.0	02/15/22 04:09	
EPA 6020	Beryllium	0.24	ug/L	0.20	02/15/22 04:09	
EPA 6020	Cobalt	1.8	ug/L	1.0	02/15/22 04:09	
EPA 6020	Selenium	1.4	ug/L	1.0	02/15/22 04:09	
EPA 903.1	Radium-226	0.717 ± 0.525 (0.700) C:NA T:98%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	0.192 ± 0.412 (0.913) C:82% T:90%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	0.909 ± 0.937 (1.61)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	296	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	270	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Carbonate (CaCO3)	26.4	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	409	mg/L	10.0	02/11/22 12:38	
SM 4500-H+B	pH at 25 Degrees C	8.7	Std. Units	0.10	02/15/22 14:49	H3
EPA 365.1	Phosphate as P04	0.67	mg/L	0.15	02/16/22 17:48	B0
50308814003	**MW-35D2**					
EPA 9056	Chloride	8.4	mg/L	0.25	02/11/22 11:42	
EPA 9056	Fluoride	2.1	mg/L	0.10	02/11/22 11:42	
EPA 9056	Sulfate	7.0	mg/L	0.25	02/11/22 11:42	
EPA 6010	Aluminum	39300	ug/L	200	02/21/22 12:49	
EPA 6010	Barium	474	ug/L	10.0	02/21/22 12:49	
EPA 6010	Boron	1190	ug/L	100	02/21/22 12:49	
EPA 6010	Cadmium	2.3	ug/L	2.0	02/21/22 12:49	
EPA 6010	Calcium	14000	ug/L	1000	02/21/22 12:49	
EPA 6010	Chromium	81.5	ug/L	10.0	02/21/22 12:49	
EPA 6010	Iron	54900	ug/L	100	02/21/22 12:49	
EPA 6010	Lead	22.8	ug/L	10.0	02/21/22 12:49	
EPA 6010	Lithium	75.0	ug/L	20.0	02/21/22 12:49	
EPA 6010	Magnesium	13400	ug/L	1000	02/21/22 12:49	
EPA 6010	Manganese	1100	ug/L	10.0	02/21/22 12:49	
EPA 6010	Molybdenum	58.0	ug/L	10.0	02/21/22 12:49	
EPA 6010	Potassium	13200	ug/L	1000	02/21/22 12:49	
EPA 6010	Silica	67900	ug/L	450	02/21/22 12:49	N2
EPA 6010	Sodium	186000	ug/L	1000	02/21/22 12:49	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814003	**MW-35D2**					
EPA 6010	Manganese, Dissolved	21.7	ug/L	10.0	02/15/22 23:25	
EPA 6010	Molybdenum, Dissolved	21.7	ug/L	10.0	02/15/22 23:25	
EPA 6020	Arsenic	12.0	ug/L	1.0	02/15/22 04:13	
EPA 6020	Beryllium	2.1	ug/L	0.20	02/15/22 04:13	
EPA 6020	Cobalt	22.6	ug/L	1.0	02/15/22 04:13	
EPA 6020	Selenium	8.5	ug/L	1.0	02/15/22 04:13	
EPA 903.1	Radium-226	4.11 ± 1.22 (0.934) C:NA T:90%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	2.41 ± 0.797 (1.06) C:81% T:80%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	6.52 ± 2.02 (1.99)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	420	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	375	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Carbonate (CaCO3)	44.8	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	500	mg/L	10.0	02/11/22 12:38	
SM 4500-H+B	pH at 25 Degrees C	8.8	Std. Units	0.10	02/15/22 14:50	H3
EPA 365.1	Phosphate as P04	3.8	mg/L	0.30	02/16/22 18:38	B0
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	02/18/22 00:54	
50308814004	**MW-35D1**					
EPA 9056	Chloride	25.0	mg/L	2.5	02/11/22 12:46	
EPA 9056	Fluoride	0.28	mg/L	0.10	02/11/22 12:31	
EPA 9056	Sulfate	499	mg/L	25.0	02/11/22 13:02	
EPA 6010	Barium	104	ug/L	10.0	02/21/22 12:55	
EPA 6010	Calcium	176000	ug/L	1000	02/21/22 12:55	
EPA 6010	Iron	5140	ug/L	100	02/21/22 12:55	
EPA 6010	Lithium	188	ug/L	20.0	02/21/22 12:55	
EPA 6010	Magnesium	51700	ug/L	1000	02/21/22 12:55	
EPA 6010	Manganese	920	ug/L	10.0	02/21/22 12:55	
EPA 6010	Molybdenum	30.4	ug/L	10.0	02/21/22 12:55	
EPA 6010	Potassium	5010	ug/L	1000	02/21/22 12:55	
EPA 6010	Silica	17500	ug/L	450	02/21/22 12:55	N2
EPA 6010	Sodium	42500	ug/L	1000	02/21/22 12:55	
EPA 6010	Manganese, Dissolved	1030	ug/L	10.0	02/15/22 23:27	
EPA 6010	Molybdenum, Dissolved	32.4	ug/L	10.0	02/15/22 23:27	
EPA 6020	Arsenic	1.8	ug/L	1.0	02/15/22 04:17	
EPA 903.1	Radium-226	1.37 ± 0.719 (0.775) C:NA T:94%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	0.475 ± 0.568 (1.20) C:81% T:86%	pCi/L		02/28/22 16:04	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814004	**MW-35D1**					
Total Radium Calculation	Total Radium	1.85 ± 1.29 (1.98)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	294	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	294	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	5080	mg/L	100	02/11/22 12:38	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	02/15/22 14:50	H3
EPA 365.1	Phosphate as P04	1.2	mg/L	0.15	02/16/22 17:49	B0
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	02/15/22 02:38	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	02/18/22 01:15	
50308814005	**MW-32D1**					
EPA 9056	Chloride	2.5	mg/L	0.25	02/11/22 13:19	
EPA 9056	Sulfate	237	mg/L	2.5	02/11/22 15:16	
EPA 6010	Aluminum	1020	ug/L	200	02/21/22 12:57	
EPA 6010	Barium	70.3	ug/L	10.0	02/21/22 12:57	
EPA 6010	Calcium	104000	ug/L	1000	02/21/22 12:57	
EPA 6010	Iron	2900	ug/L	100	02/21/22 12:57	
EPA 6010	Magnesium	31700	ug/L	1000	02/21/22 12:57	
EPA 6010	Manganese	104	ug/L	10.0	02/21/22 12:57	
EPA 6010	Potassium	1950	ug/L	1000	02/21/22 12:57	
EPA 6010	Silica	20400	ug/L	450	02/21/22 12:57	N2
EPA 6010	Sodium	5380	ug/L	1000	02/21/22 12:57	
EPA 6010	Manganese, Dissolved	100	ug/L	10.0	02/15/22 23:29	
EPA 903.1	Radium-226	0.985 ± 0.698 (0.961) C:NA T:96%	pCi/L		03/01/22 11:48	
EPA 904.0	Radium-228	0.0334 ± 0.472 (1.09) C:80% T:87%	pCi/L		02/28/22 16:04	
Total Radium Calculation	Total Radium	1.02 ± 1.17 (2.05)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	193	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	193	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	517	mg/L	10.0	02/11/22 12:39	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	02/15/22 14:51	H3
50308814006	**MW-32D2**					
EPA 9056	Chloride	12.3	mg/L	2.5	02/15/22 10:14	
EPA 9056	Fluoride	1.6	mg/L	0.10	02/11/22 15:47	
EPA 9056	Sulfate	18.3	mg/L	0.25	02/11/22 15:47	
EPA 6010	Aluminum	228000	ug/L	200	02/21/22 12:59	
EPA 6010	Barium	2240	ug/L	10.0	02/21/22 12:59	
EPA 6010	Boron	796	ug/L	100	02/21/22 12:59	
EPA 6010	Cadmium	15.3	ug/L	2.0	02/21/22 12:59	
EPA 6010	Calcium	121000	ug/L	1000	02/21/22 12:59	
EPA 6010	Chromium	614	ug/L	10.0	02/21/22 12:59	
EPA 6010	Iron	466000	ug/L	200	02/21/22 14:20	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814006	**MW-32D2**					
EPA 6010	Lead	174	ug/L	10.0	02/21/22 12:59	
EPA 6010	Lithium	448	ug/L	20.0	02/21/22 12:59	
EPA 6010	Magnesium	89800	ug/L	1000	02/21/22 12:59	
EPA 6010	Manganese	8570	ug/L	10.0	02/21/22 12:59	
EPA 6010	Molybdenum	198	ug/L	10.0	02/21/22 12:59	
EPA 6010	Potassium	54900	ug/L	1000	02/21/22 12:59	
EPA 6010	Silica	31300	ug/L	450	02/21/22 12:59	N2
EPA 6010	Sodium	127000	ug/L	1000	02/21/22 12:59	
EPA 6010	Manganese, Dissolved	14.5	ug/L	10.0	02/15/22 23:31	
EPA 6010	Molybdenum, Dissolved	13.4	ug/L	10.0	02/15/22 23:31	
EPA 6020	Arsenic	98.7	ug/L	10.0	02/15/22 04:33	
EPA 6020	Beryllium	14.2	ug/L	2.0	02/15/22 04:33	
EPA 6020	Cobalt	215	ug/L	10.0	02/15/22 04:33	
EPA 6020	Selenium	64.7	ug/L	10.0	02/15/22 04:33	
EPA 6020	Thallium	4.6	ug/L	1.0	02/15/22 04:37	
EPA 903.1	Radium-226	28.5 ± 8.41 (1.48) C:NA T:96%	pCi/L		03/09/22 11:12	
EPA 904.0	Radium-228	12.1 ± 3.52 (3.82) C:84% T:93%	pCi/L		03/03/22 11:25	
Total Radium Calculation	Total Radium	40.6 ± 11.9 (5.30)	pCi/L		03/14/22 21:58	
SM 2320B	Alkalinity, Total as CaCO3	333	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	305	mg/L	2.0	02/12/22 14:39	
SM 2320B	Alkalinity,Carbonate (CaCO3)	27.6	mg/L	2.0	02/12/22 14:39	
SM 2540C	Total Dissolved Solids	69	mg/L	10.0	02/11/22 12:39	
SM 4500-H+B	pH at 25 Degrees C	8.4	Std. Units	0.10	02/15/22 14:52	H3
EPA 365.1	Phosphate as P04	47.8	mg/L	4.4	02/16/22 19:21	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	02/18/22 01:34	
50308814007	**MW-33I**					
EPA 9056	Chloride	120	mg/L	2.5	02/11/22 16:52	
EPA 9056	Sulfate	1700	mg/L	25.0	02/11/22 17:08	
EPA 6010	Barium	63.0	ug/L	10.0	02/21/22 13:01	
EPA 6010	Boron	1940	ug/L	100	02/21/22 13:01	
EPA 6010	Calcium	462000	ug/L	5000	02/21/22 14:22	
EPA 6010	Iron	12000	ug/L	100	02/21/22 13:01	
EPA 6010	Lithium	258	ug/L	20.0	02/21/22 13:01	
EPA 6010	Magnesium	86600	ug/L	1000	02/21/22 13:01	
EPA 6010	Manganese	2620	ug/L	10.0	02/21/22 13:01	
EPA 6010	Molybdenum	27.3	ug/L	10.0	02/21/22 13:01	
EPA 6010	Potassium	9190	ug/L	1000	02/21/22 13:01	
EPA 6010	Silica	17000	ug/L	450	02/21/22 13:01	N2
EPA 6010	Sodium	298000	ug/L	5000	02/21/22 14:22	
EPA 6010	Manganese, Dissolved	2640	ug/L	10.0	02/15/22 23:07	
EPA 6010	Molybdenum, Dissolved	23.3	ug/L	10.0	02/15/22 23:07	
EPA 6020	Arsenic	3.0	ug/L	1.0	02/15/22 04:49	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814007	**MW-33I**					
EPA 6020	Cobalt	2.1	ug/L	1.0	02/15/22 04:49	
EPA 903.1	Radium-226	0.236 ± 0.355 (0.586) C:NA T:97%	pCi/L		03/01/22 12:07	
EPA 904.0	Radium-228	1.16 ± 0.731 (1.41) C:81% T:84%	pCi/L		02/28/22 16:16	
Total Radium Calculation	Total Radium	1.40 ± 1.09 (2.00)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	92.9	mg/L	2.0	02/16/22 13:07	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	92.9	mg/L	2.0	02/16/22 13:07	
SM 2540C	Total Dissolved Solids	2480	mg/L	40.0	02/11/22 12:39	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	02/15/22 14:53	H3
EPA 353.2	Nitrogen, Nitrite	0.043	mg/L	0.013	02/10/22 15:53	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	02/16/22 21:52	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	02/17/22 22:51	
50308814008	**MW-33D2**					
EPA 9056	Chloride	48.3	mg/L	2.5	02/11/22 19:52	
EPA 9056	Fluoride	3.4	mg/L	0.10	02/11/22 19:35	
EPA 9056	Sulfate	5.8	mg/L	0.25	02/11/22 19:35	
EPA 6010	Aluminum	30500	ug/L	200	02/21/22 13:11	
EPA 6010	Barium	345	ug/L	10.0	02/21/22 13:11	
EPA 6010	Boron	1110	ug/L	100	02/21/22 13:11	
EPA 6010	Calcium	9810	ug/L	1000	02/21/22 13:11	
EPA 6010	Chromium	57.6	ug/L	10.0	02/21/22 13:11	
EPA 6010	Iron	34700	ug/L	100	02/21/22 13:11	
EPA 6010	Lead	15.8	ug/L	10.0	02/21/22 13:11	
EPA 6010	Lithium	64.7	ug/L	20.0	02/21/22 13:11	
EPA 6010	Magnesium	9370	ug/L	1000	02/21/22 13:11	
EPA 6010	Manganese	622	ug/L	10.0	02/21/22 13:11	
EPA 6010	Molybdenum	22.0	ug/L	10.0	02/21/22 13:11	
EPA 6010	Potassium	11100	ug/L	1000	02/21/22 13:11	
EPA 6010	Silica	71000	ug/L	450	02/21/22 13:11	N2
EPA 6010	Sodium	277000	ug/L	2000	02/21/22 14:28	
EPA 6010	Manganese, Dissolved	14.6	ug/L	10.0	02/15/22 23:33	
EPA 6020	Antimony	1.7	ug/L	1.0	02/15/22 05:17	
EPA 6020	Arsenic	8.0	ug/L	1.0	02/15/22 05:17	
EPA 6020	Beryllium	1.3	ug/L	0.20	02/15/22 05:17	
EPA 6020	Cobalt	15.1	ug/L	1.0	02/15/22 05:17	
EPA 6020	Selenium	5.3	ug/L	1.0	02/15/22 05:17	
EPA 903.1	Radium-226	3.25 ± 1.07 (1.02) C:NA T:89%	pCi/L		03/01/22 12:07	

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SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308814008	**MW-33D2**					
EPA 904.0	Radium-228	1.77 ± 0.869 (1.57) C:79% T:83%	pCi/L		02/28/22 16:16	
Total Radium Calculation	Total Radium	5.02 ± 1.94 (2.59)	pCi/L		03/02/22 17:45	
SM 2320B	Alkalinity, Total as CaCO3	510	mg/L	2.0	02/16/22 13:07	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	465	mg/L	2.0	02/16/22 13:07	
SM 2320B	Alkalinity,Carbonate (CaCO3)	44.8	mg/L	2.0	02/16/22 13:07	
SM 2540C	Total Dissolved Solids	782	mg/L	20.0	02/11/22 12:40	
SM 4500-H+B	pH at 25 Degrees C	8.6	Std. Units	0.10	02/15/22 14:55	H3
EPA 365.1	Phosphate as P04	2.5	mg/L	0.15	02/16/22 17:57	
50308814009	**MW-33I RAD MS**					
EPA 903.1	Radium-226	94.63 %REC ± NA (NA) C:NA T:NA%	pCi/L		03/01/22 12:07	
EPA 904.0	Radium-228	99.05 %REC ± NA (NA) C:NA T:NA	pCi/L		02/28/22 18:17	
50308814010	**MW-33I RAD MSD**					
EPA 903.1	Radium-226	73.29 %REC 25.41 RPD ± NA (NA) C:NA T:NA%	pCi/L		03/01/22 12:07	
EPA 904.0	Radium-228	96.09 %REC 3.04 RPD ± NA (NA) C:NA T:NA	pCi/L		02/28/22 18:17	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-34D2 **Lab ID: 50308814001** Collected: 02/09/22 09:20 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**16.6**	mg/L	2.5	10		02/11/22 09:47	16887-00-6	
Fluoride	**1.9**	mg/L	0.10	1		02/11/22 09:31	16984-48-8	
Sulfate	**7.5**	mg/L	0.25	1		02/11/22 09:31	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**8500**	ug/L	200	1	02/17/22 16:10	02/21/22 14:18	7429-90-5	
Barium	**126**	ug/L	10.0	1	02/17/22 16:10	02/21/22 14:18	7440-39-3	
Boron	**952**	ug/L	100	1	02/17/22 16:10	02/21/22 14:18	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 14:18	7440-43-9	
Calcium	**5020**	ug/L	1000	1	02/17/22 16:10	02/21/22 14:18	7440-70-2	
Chromium	**12.8**	ug/L	10.0	1	02/17/22 16:10	02/21/22 14:18	7440-47-3	
Iron	**4860**	ug/L	100	1	02/17/22 16:10	02/21/22 14:18	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 14:18	7439-92-1	
Lithium	**21.2**	ug/L	20.0	1	02/17/22 16:10	02/21/22 14:18	7439-93-2	
Magnesium	**1820**	ug/L	1000	1	02/17/22 16:10	02/21/22 14:18	7439-95-4	
Manganese	**123**	ug/L	10.0	1	02/17/22 16:10	02/21/22 14:18	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 14:18	7439-98-7	
Potassium	**3990**	ug/L	1000	1	02/17/22 16:10	02/21/22 14:18	7440-09-7	
Silica	**28400**	ug/L	450	1	02/17/22 16:10	02/21/22 14:18	7631-86-9	N2
Sodium	**161000**	ug/L	1000	1	02/17/22 16:10	02/21/22 14:18	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**18.1**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:21	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:21	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:05	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:05	7440-38-2	
Beryllium	**0.38**	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:05	7440-41-7	
Cobalt	**1.9**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:05	7440-48-4	
Selenium	**1.8**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:05	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:05	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**322**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**290**	mg/L	2.0	1		02/12/22 14:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-34D2 **Lab ID: 50308814001** Collected: 02/09/22 09:20 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**31.2**	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 100 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**470**	mg/L	10.0	1		02/11/22 12:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**9.0**	Std. Units	0.10	1		02/15/22 14:47		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 15:58	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 15:58	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.1**	mg/L	0.15	1	02/16/22 09:00	02/16/22 17:48		B0
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/15/22 01:42	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/18/22 00:34		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-30D2 **Lab ID: 50308814002** Collected: 02/09/22 13:15 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**13.5**	mg/L	2.5	10		02/11/22 10:36	16887-00-6	
Fluoride	**0.91**	mg/L	0.10	1		02/11/22 10:20	16984-48-8	
Sulfate	**6.8**	mg/L	0.25	1		02/11/22 10:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**5080**	ug/L	200	1	02/17/22 16:10	02/21/22 12:47	7429-90-5	
Barium	**91.3**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:47	7440-39-3	
Boron	**781**	ug/L	100	1	02/17/22 16:10	02/21/22 12:47	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 12:47	7440-43-9	
Calcium	**5020**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:47	7440-70-2	
Chromium	**29.7**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:47	7440-47-3	
Iron	**5140**	ug/L	100	1	02/17/22 16:10	02/21/22 12:47	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:47	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/17/22 16:10	02/21/22 12:47	7439-93-2	
Magnesium	**2090**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:47	7439-95-4	
Manganese	**102**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:47	7439-96-5	
Molybdenum	**36.2**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:47	7439-98-7	
Potassium	**4570**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:47	7440-09-7	
Silica	**19100**	ug/L	450	1	02/17/22 16:10	02/21/22 12:47	7631-86-9	N2
Sodium	**141000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:47	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**12.4**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:23	7439-96-5	
Molybdenum, Dissolved	**31.5**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:23	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	**3.0**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:09	7440-36-0	
Arsenic	**2.4**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:09	7440-38-2	
Beryllium	**0.24**	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:09	7440-41-7	
Cobalt	**1.8**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:09	7440-48-4	
Selenium	**1.4**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:09	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:09	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**296**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**270**	mg/L	2.0	1		02/12/22 14:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-30D2 **Lab ID: 50308814002** Collected: 02/09/22 13:15 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**26.4**	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 100 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**409**	mg/L	10.0	1		02/11/22 12:38		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.7**	Std. Units	0.10	1		02/15/22 14:49		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.67**	mg/L	0.15	1	02/16/22 09:00	02/16/22 17:48		B0
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/15/22 01:58	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/18/22 00:44		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D2 **Lab ID: 50308814003** Collected: 02/09/22 10:05 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**8.4**	mg/L	0.25	1		02/11/22 11:42	16887-00-6	
Fluoride	**2.1**	mg/L	0.10	1		02/11/22 11:42	16984-48-8	
Sulfate	**7.0**	mg/L	0.25	1		02/11/22 11:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**39300**	ug/L	200	1	02/17/22 16:10	02/21/22 12:49	7429-90-5	
Barium	**474**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:49	7440-39-3	
Boron	**1190**	ug/L	100	1	02/17/22 16:10	02/21/22 12:49	7440-42-8	
Cadmium	**2.3**	ug/L	2.0	1	02/17/22 16:10	02/21/22 12:49	7440-43-9	
Calcium	**14000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:49	7440-70-2	
Chromium	**81.5**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:49	7440-47-3	
Iron	**54900**	ug/L	100	1	02/17/22 16:10	02/21/22 12:49	7439-89-6	
Lead	**22.8**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:49	7439-92-1	
Lithium	**75.0**	ug/L	20.0	1	02/17/22 16:10	02/21/22 12:49	7439-93-2	
Magnesium	**13400**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:49	7439-95-4	
Manganese	**1100**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:49	7439-96-5	
Molybdenum	**58.0**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:49	7439-98-7	
Potassium	**13200**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:49	7440-09-7	
Silica	**67900**	ug/L	450	1	02/17/22 16:10	02/21/22 12:49	7631-86-9	N2
Sodium	**186000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:49	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**21.7**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:25	7439-96-5	
Molybdenum, Dissolved	**21.7**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:25	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:13	7440-36-0	
Arsenic	**12.0**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:13	7440-38-2	
Beryllium	**2.1**	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:13	7440-41-7	
Cobalt	**22.6**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:13	7440-48-4	
Selenium	**8.5**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:13	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:13	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**420**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**375**	mg/L	2.0	1		02/12/22 14:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D2 **Lab ID: 50308814003** Collected: 02/09/22 10:05 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**44.8**	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 100 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**500**	mg/L	10.0	1		02/11/22 12:38		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.8**	Std. Units	0.10	1		02/15/22 14:50		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:00	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:00	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**3.8**	mg/L	0.30	2	02/16/22 09:00	02/16/22 18:38		B0
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/15/22 02:08	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.0**	mg/L	1.0	1		02/18/22 00:54		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D1 **Lab ID: 50308814004** Collected: 02/09/22 11:25 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**25.0**	mg/L	2.5	10		02/11/22 12:46	16887-00-6	
Fluoride	**0.28**	mg/L	0.10	1		02/11/22 12:31	16984-48-8	
Sulfate	**499**	mg/L	25.0	100		02/11/22 13:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	02/17/22 16:10	02/21/22 12:55	7429-90-5	
Barium	**104**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:55	7440-39-3	
Boron	ND	ug/L	100	1	02/17/22 16:10	02/21/22 12:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 12:55	7440-43-9	
Calcium	**176000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:55	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:55	7440-47-3	
Iron	**5140**	ug/L	100	1	02/17/22 16:10	02/21/22 12:55	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:55	7439-92-1	
Lithium	**188**	ug/L	20.0	1	02/17/22 16:10	02/21/22 12:55	7439-93-2	
Magnesium	**51700**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:55	7439-95-4	
Manganese	**920**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:55	7439-96-5	
Molybdenum	**30.4**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:55	7439-98-7	
Potassium	**5010**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:55	7440-09-7	
Silica	**17500**	ug/L	450	1	02/17/22 16:10	02/21/22 12:55	7631-86-9	N2
Sodium	**42500**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**1030**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:27	7439-96-5	
Molybdenum, Dissolved	**32.4**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:27	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:17	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:17	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:17	7440-41-7	
Cobalt	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:17	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:17	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**294**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**294**	mg/L	2.0	1		02/12/22 14:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D1 **Lab ID: 50308814004** Collected: 02/09/22 11:25 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 10 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**5080**	mg/L	100	1		02/11/22 12:38		
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		02/15/22 14:50		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:04	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:04	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.2**	mg/L	0.15	1	02/16/22 09:00	02/16/22 17:49		B0
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/15/22 02:38	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.9**	mg/L	1.0	1		02/18/22 01:15		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D1 **Lab ID: 50308814005** Collected: 02/09/22 17:00 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**2.5**	mg/L	0.25	1		02/11/22 13:19	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/11/22 13:19	16984-48-8	
Sulfate	**237**	mg/L	2.5	10		02/11/22 15:16	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**1020**	ug/L	200	1	02/17/22 16:10	02/21/22 12:57	7429-90-5	
Barium	**70.3**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:57	7440-39-3	
Boron	ND	ug/L	100	1	02/17/22 16:10	02/21/22 12:57	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 12:57	7440-43-9	
Calcium	**104000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:57	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:57	7440-47-3	
Iron	**2900**	ug/L	100	1	02/17/22 16:10	02/21/22 12:57	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:57	7439-92-1	
Lithium	ND	ug/L	20.0	1	02/17/22 16:10	02/21/22 12:57	7439-93-2	
Magnesium	**31700**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:57	7439-95-4	
Manganese	**104**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:57	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:57	7439-98-7	
Potassium	**1950**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:57	7440-09-7	
Silica	**20400**	ug/L	450	1	02/17/22 16:10	02/21/22 12:57	7631-86-9	N2
Sodium	**5380**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**100**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:29	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:29	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:21	7440-36-0	
Arsenic	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:21	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:21	7440-41-7	
Cobalt	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:21	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:21	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**193**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**193**	mg/L	2.0	1		02/12/22 14:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D1 **Lab ID: 50308814005** Collected: 02/09/22 17:00 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 100 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**517**	mg/L	10.0	1		02/11/22 12:39		
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		02/15/22 14:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:15	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	02/16/22 09:00	02/16/22 17:50		B0
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/16/22 21:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/18/22 01:25		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D2 **Lab ID: 50308814006** Collected: 02/09/22 15:30 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**12.3**	mg/L	2.5	10		02/15/22 10:14	16887-00-6	
Fluoride	**1.6**	mg/L	0.10	1		02/11/22 15:47	16984-48-8	
Sulfate	**18.3**	mg/L	0.25	1		02/11/22 15:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**228000**	ug/L	200	1	02/17/22 16:10	02/21/22 12:59	7429-90-5	
Barium	**2240**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:59	7440-39-3	
Boron	**796**	ug/L	100	1	02/17/22 16:10	02/21/22 12:59	7440-42-8	
Cadmium	**15.3**	ug/L	2.0	1	02/17/22 16:10	02/21/22 12:59	7440-43-9	
Calcium	**121000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:59	7440-70-2	
Chromium	**614**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:59	7440-47-3	
Iron	**466000**	ug/L	200	2	02/17/22 16:10	02/21/22 14:20	7439-89-6	
Lead	**174**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:59	7439-92-1	
Lithium	**448**	ug/L	20.0	1	02/17/22 16:10	02/21/22 12:59	7439-93-2	
Magnesium	**89800**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:59	7439-95-4	
Manganese	**8570**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:59	7439-96-5	
Molybdenum	**198**	ug/L	10.0	1	02/17/22 16:10	02/21/22 12:59	7439-98-7	
Potassium	**54900**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:59	7440-09-7	
Silica	**31300**	ug/L	450	1	02/17/22 16:10	02/21/22 12:59	7631-86-9	N2
Sodium	**127000**	ug/L	1000	1	02/17/22 16:10	02/21/22 12:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**14.5**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:31	7439-96-5	
Molybdenum, Dissolved	**13.4**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:31	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:37	7440-36-0	
Arsenic	**98.7**	ug/L	10.0	10	02/13/22 23:00	02/15/22 04:33	7440-38-2	
Beryllium	**14.2**	ug/L	2.0	10	02/13/22 23:00	02/15/22 04:33	7440-41-7	
Cobalt	**215**	ug/L	10.0	10	02/13/22 23:00	02/15/22 04:33	7440-48-4	
Selenium	**64.7**	ug/L	10.0	10	02/13/22 23:00	02/15/22 04:33	7782-49-2	
Thallium	**4.6**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:37	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**333**	mg/L	2.0	1		02/12/22 14:39		
Alkalinity,Bicarbonate (CaCO3)	**305**	mg/L	2.0	1		02/12/22 14:39		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D2 **Lab ID: 50308814006** Collected: 02/09/22 15:30 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**27.6**	mg/L	2.0	1		02/12/22 14:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 100 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**69**	mg/L	10.0	1		02/11/22 12:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.4**	Std. Units	0.10	1		02/15/22 14:52		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.50	5		02/14/22 15:20	18496-25-8	D3
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**47.8**	mg/L	4.4	29	02/16/22 12:00	02/16/22 19:21		
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	4.0	4		02/16/22 21:36	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.5**	mg/L	1.0	1		02/18/22 01:34		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33I **Lab ID: 50308814007** Collected: 02/09/22 09:00 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**120**	mg/L	2.5	10		02/11/22 16:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/11/22 16:36	16984-48-8	
Sulfate	**1700**	mg/L	25.0	100		02/11/22 17:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	02/17/22 16:10	02/21/22 13:01	7429-90-5	
Barium	**63.0**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:01	7440-39-3	
Boron	**1940**	ug/L	100	1	02/17/22 16:10	02/21/22 13:01	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 13:01	7440-43-9	
Calcium	**462000**	ug/L	5000	5	02/17/22 16:10	02/21/22 14:22	7440-70-2	
Chromium	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:01	7440-47-3	
Iron	**12000**	ug/L	100	1	02/17/22 16:10	02/21/22 13:01	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:01	7439-92-1	
Lithium	**258**	ug/L	20.0	1	02/17/22 16:10	02/21/22 13:01	7439-93-2	
Magnesium	**86600**	ug/L	1000	1	02/17/22 16:10	02/21/22 13:01	7439-95-4	
Manganese	**2620**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:01	7439-96-5	
Molybdenum	**27.3**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:01	7439-98-7	
Potassium	**9190**	ug/L	1000	1	02/17/22 16:10	02/21/22 13:01	7440-09-7	
Silica	**17000**	ug/L	450	1	02/17/22 16:10	02/21/22 13:01	7631-86-9	N2
Sodium	**298000**	ug/L	5000	5	02/17/22 16:10	02/21/22 14:22	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2640**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:07	7439-96-5	
Molybdenum, Dissolved	**23.3**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:07	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:49	7440-36-0	
Arsenic	**3.0**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:49	7440-38-2	
Beryllium	ND	ug/L	0.20	1	02/13/22 23:00	02/15/22 04:49	7440-41-7	
Cobalt	**2.1**	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:49	7440-48-4	
Selenium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 04:49	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**92.9**	mg/L	2.0	1		02/16/22 13:07		
Alkalinity,Bicarbonate (CaCO3)	**92.9**	mg/L	2.0	1		02/16/22 13:07		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33I **Lab ID: 50308814007** Collected: 02/09/22 09:00 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/16/22 13:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 25 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2480**	mg/L	40.0	1		02/11/22 12:39		
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		02/15/22 14:53		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 15:53	14797-55-8	
Nitrogen, Nitrite	**0.043**	mg/L	0.013	1		02/10/22 15:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	ND	mg/L	0.15	1	02/16/22 12:00	02/16/22 17:55		
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.2**	mg/L	1.0	1		02/16/22 21:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		02/17/22 22:51		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33D2 **Lab ID: 50308814008** Collected: 02/09/22 11:20 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Chloride	**48.3**	mg/L	2.5	10		02/11/22 19:52	16887-00-6	
Fluoride	**3.4**	mg/L	0.10	1		02/11/22 19:35	16984-48-8	
Sulfate	**5.8**	mg/L	0.25	1		02/11/22 19:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Aluminum	**30500**	ug/L	200	1	02/17/22 16:10	02/21/22 13:11	7429-90-5	
Barium	**345**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:11	7440-39-3	
Boron	**1110**	ug/L	100	1	02/17/22 16:10	02/21/22 13:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:10	02/21/22 13:11	7440-43-9	
Calcium	**9810**	ug/L	1000	1	02/17/22 16:10	02/21/22 13:11	7440-70-2	
Chromium	**57.6**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:11	7440-47-3	
Iron	**34700**	ug/L	100	1	02/17/22 16:10	02/21/22 13:11	7439-89-6	
Lead	**15.8**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:11	7439-92-1	
Lithium	**64.7**	ug/L	20.0	1	02/17/22 16:10	02/21/22 13:11	7439-93-2	
Magnesium	**9370**	ug/L	1000	1	02/17/22 16:10	02/21/22 13:11	7439-95-4	
Manganese	**622**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:11	7439-96-5	
Molybdenum	**22.0**	ug/L	10.0	1	02/17/22 16:10	02/21/22 13:11	7439-98-7	
Potassium	**11100**	ug/L	1000	1	02/17/22 16:10	02/21/22 13:11	7440-09-7	
Silica	**71000**	ug/L	450	1	02/17/22 16:10	02/21/22 13:11	7631-86-9	N2
Sodium	**277000**	ug/L	2000	2	02/17/22 16:10	02/21/22 14:28	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**14.6**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:33	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:33	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Antimony	**1.7**	ug/L	1.0	1	02/13/22 23:00	02/15/22 05:17	7440-36-0	
Arsenic	**8.0**	ug/L	1.0	1	02/13/22 23:00	02/15/22 05:17	7440-38-2	
Beryllium	**1.3**	ug/L	0.20	1	02/13/22 23:00	02/15/22 05:17	7440-41-7	
Cobalt	**15.1**	ug/L	1.0	1	02/13/22 23:00	02/15/22 05:17	7440-48-4	
Selenium	**5.3**	ug/L	1.0	1	02/13/22 23:00	02/15/22 05:17	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/13/22 23:00	02/15/22 05:17	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**510**	mg/L	2.0	1		02/16/22 13:07		
Alkalinity,Bicarbonate (CaCO3)	**465**	mg/L	2.0	1		02/16/22 13:07		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33D2 **Lab ID: 50308814008** Collected: 02/09/22 11:20 Received: 02/10/22 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Initial Volume/Weight: 25 mL Final Volume/Weight: 25 mL Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**44.8**	mg/L	2.0	1		02/16/22 13:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Initial Volume/Weight: 50 mL Final Volume/Weight: 100 mL Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**782**	mg/L	20.0	1		02/11/22 12:40		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.6**	Std. Units	0.10	1		02/15/22 14:55		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 15:20	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/10/22 16:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/10/22 16:02	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Initial Volume/Weight: 50 mL Final Volume/Weight: 50 mL Pace Analytical Services - Indianapolis							
Phosphate as P04	**2.5**	mg/L	0.15	1	02/16/22 12:00	02/16/22 17:57		
5310C TOC	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		02/16/22 22:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Initial Volume/Weight: 40 mL Final Volume/Weight: 40 mL Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		02/18/22 01:44		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661647 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3047173 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	02/11/22 08:41	
Fluoride	mg/L	ND	0.10	02/11/22 08:41	
Sulfate	mg/L	ND	0.25	02/11/22 08:41	

LABORATORY CONTROL SAMPLE: 3047174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.3	102	80-120	
Fluoride	mg/L	0.5	0.47	94	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047175 3047176

Parameter	Units	50308814007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	120	125	125	221	221	81	81	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.51	0.51	87	86	80-120	0	15	
Sulfate	mg/L	1700	250	250	1900	1900	80	80	80-120	0	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661850
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3048260 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	02/21/22 14:35	
Barium	ug/L	ND	10.0	02/21/22 14:35	
Boron	ug/L	ND	100	02/21/22 14:35	
Cadmium	ug/L	ND	2.0	02/21/22 14:35	
Calcium	ug/L	ND	1000	02/21/22 14:35	
Chromium	ug/L	ND	10.0	02/21/22 14:35	
Iron	ug/L	ND	100	02/21/22 14:35	
Lead	ug/L	ND	10.0	02/21/22 14:35	
Lithium	ug/L	ND	20.0	02/21/22 14:35	
Magnesium	ug/L	ND	1000	02/21/22 14:35	
Manganese	ug/L	ND	10.0	02/21/22 14:35	
Molybdenum	ug/L	ND	10.0	02/21/22 14:35	
Potassium	ug/L	ND	1000	02/21/22 14:35	
Silica	ug/L	ND	450	02/21/22 14:35	N2
Sodium	ug/L	ND	1000	02/21/22 14:35	

LABORATORY CONTROL SAMPLE: 3048261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	80-120	
Barium	ug/L	1000	1040	104	80-120	
Boron	ug/L	1000	1000	100	80-120	
Cadmium	ug/L	1000	974	97	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	1000	1020	102	80-120	
Iron	ug/L	10000	9690	97	80-120	
Lead	ug/L	1000	937	94	80-120	
Lithium	ug/L	1000	1070	107	80-120	
Magnesium	ug/L	10000	9610	96	80-120	
Manganese	ug/L	1000	981	98	80-120	
Molybdenum	ug/L	1000	1050	105	80-120	
Potassium	ug/L	10000	11200	112	80-120	
Silica	ug/L	10700	9780	91	80-120	N2
Sodium	ug/L	10000	11300	113	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048262 3048263

Parameter	Units	50308814007 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	11000	11000	108	108	75-125	0	20	
Barium	ug/L	63.0	1000	1000	1160	1170	110	111	75-125	1	20	
Boron	ug/L	1940	1000	1000	3090	3060	116	113	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1040	1040	104	104	75-125	0	20	
Calcium	ug/L	462000	10000	10000	442000	437000	-200	-251	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	1040	1040	103	104	75-125	0	20	
Iron	ug/L	12000	10000	10000	22400	22500	104	104	75-125	0	20	
Lead	ug/L	ND	1000	1000	904	905	90	90	75-125	0	20	
Lithium	ug/L	258	1000	1000	1380	1390	113	114	75-125	1	20	
Magnesium	ug/L	86600	10000	10000	102000	102000	149	154	75-125	0	20	P6
Manganese	ug/L	2620	1000	1000	3680	3660	106	104	75-125	1	20	
Molybdenum	ug/L	27.3	1000	1000	1100	1100	107	107	75-125	0	20	
Potassium	ug/L	9190	10000	10000	20900	21000	117	118	75-125	0	20	
Silica	ug/L	17000	10700	10700	27500	25800	98	83	75-125	6	20	N2
Sodium	ug/L	298000	10000	10000	303000	299000	48	10	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661863
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3048307 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	02/15/22 23:02	
Molybdenum, Dissolved	ug/L	ND	10.0	02/15/22 23:02	

LABORATORY CONTROL SAMPLE: 3048308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	946	95	80-120	
Molybdenum, Dissolved	ug/L	1000	991	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048309 3048310

Parameter	Units	50308814007 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	2640	1000	1000	3790	3840	115	120	75-125	1	20	
Molybdenum, Dissolved	ug/L	23.3	1000	1000	1060	1100	104	108	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661914
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3048604 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	02/15/22 02:52	
Arsenic	ug/L	ND	1.0	02/15/22 02:52	
Beryllium	ug/L	ND	0.20	02/15/22 02:52	
Cobalt	ug/L	ND	1.0	02/15/22 02:52	
Selenium	ug/L	ND	1.0	02/15/22 02:52	
Thallium	ug/L	ND	1.0	02/16/22 00:24	

LABORATORY CONTROL SAMPLE: 3048605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.9	107	80-120	
Arsenic	ug/L	40	38.5	96	80-120	
Beryllium	ug/L	40	37.8	95	80-120	
Cobalt	ug/L	40	41.7	104	80-120	
Selenium	ug/L	40	39.0	97	80-120	
Thallium	ug/L	40	40.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048606 3048607

Parameter	Units	50308814007 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	42.4	42.4	106	106	75-125	0	20	
Arsenic	ug/L	3.0	40	40	44.9	43.7	105	102	75-125	3	20	
Beryllium	ug/L	ND	40	40	42.2	42.3	106	106	75-125	0	20	
Cobalt	ug/L	2.1	40	40	40.6	40.5	96	96	75-125	0	20	
Selenium	ug/L	ND	40	40	45.5	43.2	113	107	75-125	5	20	
Thallium	ug/L	ND	40	40	38.9	39.4	97	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661891 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006

METHOD BLANK: 3048423 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	02/12/22 14:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	02/12/22 14:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	02/12/22 14:39	

LABORATORY CONTROL SAMPLE: 3048424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.9	98	90-110	

SAMPLE DUPLICATE: 3048425

Parameter	Units	50308636005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	263	268	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	263	268	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3048426

Parameter	Units	50308795004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	378	381	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	378	381	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662244
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814007, 50308814008

METHOD BLANK: 3049585 Matrix: Water
Associated Lab Samples: 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	02/16/22 13:07	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	02/16/22 13:07	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	02/16/22 13:07	

LABORATORY CONTROL SAMPLE: 3049586

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: 3049587

Parameter	Units	50308668001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	127	129	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	127	129	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3049588

Parameter	Units	50308814007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	92.9	94.2	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	92.9	94.2	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3049589

Parameter	Units	50308889001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	280	281	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	280	281	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

SAMPLE DUPLICATE: 3049590

Parameter	Units	50308889005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	263	268	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	263	268	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.0	ND		20	

SAMPLE DUPLICATE: 3049591

Parameter	Units	50308911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	563	561	0	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	563	561	0	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661752 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3047802 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/11/22 12:35	

LABORATORY CONTROL SAMPLE: 3047803

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

SAMPLE DUPLICATE: 3047804

Parameter	Units	50308814007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2480	2620	5	10	

SAMPLE DUPLICATE: 3047805

Parameter	Units	50308911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1230	1260	2	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662235
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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

SAMPLE DUPLICATE: 3049565

Parameter	Units	50309048001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3049566

Parameter	Units	50308814007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662020 | 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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3048910 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	02/14/22 15:20	

LABORATORY CONTROL SAMPLE: 3048911

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: 3048912 3048913

Parameter	Units	50308814007 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	0.15	0.14	29	27	90-110	6	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048914 3048915

Parameter	Units	50308911001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.20J	0.5	0.5	0.56	0.59	73	78	90-110	4	20	M3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661640 | 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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3047136 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.037	02/10/22 15:49	
Nitrogen, Nitrite	mg/L	ND	0.013	02/10/22 15:49	

LABORATORY CONTROL SAMPLE: 3047137

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	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047138 3047139

Parameter	Units	50308814007 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	0.53	0.52	53	52	90-110	2	20	
Nitrogen, Nitrite	mg/L	0.043	1	1	0.89	0.90	85	85	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662329 | 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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005

METHOD BLANK: 3050024 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	02/16/22 17:41	B0

LABORATORY CONTROL SAMPLE: 3050025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L		1.5			B0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050026 3050027

Parameter	Units	50308795002 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			1.4	1.4				3		B0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662394
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: 50308814006, 50308814007, 50308814008

METHOD BLANK: 3050211 Matrix: Water
Associated Lab Samples: 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	02/16/22 17:51	

LABORATORY CONTROL SAMPLE: 3050212

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

MATRIX SPIKE SAMPLE: 3050213

Parameter	Units	50308832001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	18.2		21.5			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050214 3050215

Parameter	Units	50308814007 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			1.3	1.4				6		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 661988 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004

METHOD BLANK: 3048815 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/14/22 20:20	

LABORATORY CONTROL SAMPLE: 3048816

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: 3048817 3048818

Parameter	Units	50309015002 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	2.2	10	10	12.5	12.3	103	101	80-120	1	20	

MATRIX SPIKE SAMPLE: 3048819

Parameter	Units	50308795003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	13.0	20	33.5	103	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662418 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814005, 50308814006, 50308814007, 50308814008

METHOD BLANK: 3050292 Matrix: Water
Associated Lab Samples: 50308814005, 50308814006, 50308814007, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/16/22 18:12	

LABORATORY CONTROL SAMPLE: 3050293

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: 3050294 3050295

Parameter	Units	50308814007 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	1.2	10	10	11.8	11.7	106	105	80-120	1	20	

MATRIX SPIKE SAMPLE: 3050296

Parameter	Units	50308843004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	8.6	83	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662618
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814007

METHOD BLANK: 3051122 Matrix: Water
Associated Lab Samples: 50308814007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	02/17/22 18:01	

LABORATORY CONTROL SAMPLE: 3051123

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: 3051124 3051125

Parameter	Units	50308814007 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	1.3	10	10	11.5	11.3	102	100	80-120	2	20	

MATRIX SPIKE SAMPLE: 3051126

Parameter	Units	50308617002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	10.6	95	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 662619 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814008

METHOD BLANK: 3051131 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814006, 50308814008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	02/17/22 23:23	

LABORATORY CONTROL SAMPLE: 3051132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3051133 3051134

Parameter	Units	50308911001 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	64.5	100	100	170	172	106	107	80-120	1	20	

MATRIX SPIKE SAMPLE: 3051142

Parameter	Units	50308814003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.0	10	11.0	100	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-34D2 **Lab ID: 50308814001** Collected: 02/09/22 09:20 Received: 02/10/22 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	**1.31 ± 0.764 (0.958) C:NA T:96%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.363 ± 0.577 (1.25) C:79% T:87%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.67 ± 1.34 (2.21)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-30D2 **Lab ID: 50308814002** Collected: 02/09/22 13:15 Received: 02/10/22 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	**0.717 ± 0.525 (0.700) C:NA T:98%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.192 ± 0.412 (0.913) C:82% T:90%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.909 ± 0.937 (1.61)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D2 **Lab ID: 50308814003** Collected: 02/09/22 10:05 Received: 02/10/22 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	**4.11 ± 1.22 (0.934) C:NA T:90%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.41 ± 0.797 (1.06) C:81% T:80%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**6.52 ± 2.02 (1.99)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-35D1 **Lab ID: 50308814004** Collected: 02/09/22 11:25 Received: 02/10/22 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	**1.37 ± 0.719 (0.775) C:NA T:94%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.475 ± 0.568 (1.20) C:81% T:86%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.85 ± 1.29 (1.98)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D1 **Lab ID: 50308814005** Collected: 02/09/22 17:00 Received: 02/10/22 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	**0.985 ± 0.698 (0.961) C:NA T:96%**	pCi/L	03/01/22 11:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0334 ± 0.472 (1.09) C:80% T:87%**	pCi/L	02/28/22 16:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.02 ± 1.17 (2.05)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-32D2 **Lab ID: 50308814006** Collected: 02/09/22 15:30 Received: 02/10/22 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	**28.5 ± 8.41 (1.48) C:NA T:96%**	pCi/L	03/09/22 11:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**12.1 ± 3.52 (3.82) C:84% T:93%**	pCi/L	03/03/22 11:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**40.6 ± 11.9 (5.30)**	pCi/L	03/14/22 21:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33I **Lab ID: 50308814007** Collected: 02/09/22 09:00 Received: 02/10/22 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	**0.236 ± 0.355 (0.586) C:NA T:97%**	pCi/L	03/01/22 12:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.16 ± 0.731 (1.41) C:81% T:84%**	pCi/L	02/28/22 16:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.40 ± 1.09 (2.00)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33D2 **Lab ID: 50308814008** Collected: 02/09/22 11:20 Received: 02/10/22 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	**3.25 ± 1.07 (1.02) C:NA T:89%**	pCi/L	03/01/22 12:07	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.77 ± 0.869 (1.57) C:79% T:83%**	pCi/L	02/28/22 16:16	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**5.02 ± 1.94 (2.59)**	pCi/L	03/02/22 17:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33I RAD MS **Lab ID: 50308814009** Collected: 02/09/22 09:00 Received: 02/10/22 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	**94.63 %REC ± NA (NA) C:NA T:NA%**	pCi/L	03/01/22 12:07	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**99.05 %REC ± NA (NA) C:NA T:NA**	pCi/L	02/28/22 18:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Sample: MW-33I RAD MSD **Lab ID: 50308814010** Collected: 02/09/22 09:00 Received: 02/10/22 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	**73.29 %REC 25.41 RPD ± NA (NA) C:NA T:NA%**	pCi/L	03/01/22 12:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**96.09 %REC 3.04 RPD ± NA (NA) C:NA T:NA**	pCi/L	02/28/22 18:17	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 486626
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: 50308814006

METHOD BLANK: 2353288 Matrix: Water
Associated Lab Samples: 50308814006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.519 ± 0.320 (0.593) C:86% T:84%	pCi/L	03/03/22 11:25	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 484745 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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814007, 50308814008, 50308814009, 50308814010

METHOD BLANK: 2344437 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814007, 50308814008, 50308814009, 50308814010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0242 ± 0.272 (0.646) C:77% T:87%	pCi/L	02/28/22 12:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 486625
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: 50308814006

METHOD BLANK: 2353286 Matrix: Water
Associated Lab Samples: 50308814006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0916 ± 0.254 (0.493) C:NA T:94%	pCi/L	03/09/22 11:12	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

QC Batch: 484744 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: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814007, 50308814008, 50308814009, 50308814010

METHOD BLANK: 2344436 Matrix: Water
Associated Lab Samples: 50308814001, 50308814002, 50308814003, 50308814004, 50308814005, 50308814007, 50308814008, 50308814009, 50308814010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.222 ± 0.274 (0.648) C:NA T:102%	pCi/L	03/01/22 11:31	

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QUALIFIERS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 662429

[B0]	Analyte was detected in an associated blank at a concentration greater than the MDL.

ANALYTE QUALIFIERS

B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
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 P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308814001	**MW-34D2**	EPA 9056	661647		
50308814002	**MW-30D2**	EPA 9056	661647		
50308814003	**MW-35D2**	EPA 9056	661647		
50308814004	**MW-35D1**	EPA 9056	661647		
50308814005	**MW-32D1**	EPA 9056	661647		
50308814006	**MW-32D2**	EPA 9056	661647		
50308814007	**MW-33I**	EPA 9056	661647		
50308814008	**MW-33D2**	EPA 9056	661647		
50308814001	**MW-34D2**	EPA 3010	661850	EPA 6010	662978
50308814002	**MW-30D2**	EPA 3010	661850	EPA 6010	662978
50308814003	**MW-35D2**	EPA 3010	661850	EPA 6010	662978
50308814004	**MW-35D1**	EPA 3010	661850	EPA 6010	662978
50308814005	**MW-32D1**	EPA 3010	661850	EPA 6010	662978
50308814006	**MW-32D2**	EPA 3010	661850	EPA 6010	662978
50308814007	**MW-33I**	EPA 3010	661850	EPA 6010	662978
50308814008	**MW-33D2**	EPA 3010	661850	EPA 6010	662978
50308814001	**MW-34D2**	EPA 3010	661863	EPA 6010	662311
50308814002	**MW-30D2**	EPA 3010	661863	EPA 6010	662311
50308814003	**MW-35D2**	EPA 3010	661863	EPA 6010	662311
50308814004	**MW-35D1**	EPA 3010	661863	EPA 6010	662311
50308814005	**MW-32D1**	EPA 3010	661863	EPA 6010	662311
50308814006	**MW-32D2**	EPA 3010	661863	EPA 6010	662311
50308814007	**MW-33I**	EPA 3010	661863	EPA 6010	662311
50308814008	**MW-33D2**	EPA 3010	661863	EPA 6010	662311
50308814001	**MW-34D2**	EPA 200.2	661914	EPA 6020	662113
50308814002	**MW-30D2**	EPA 200.2	661914	EPA 6020	662113
50308814003	**MW-35D2**	EPA 200.2	661914	EPA 6020	662113
50308814004	**MW-35D1**	EPA 200.2	661914	EPA 6020	662113
50308814005	**MW-32D1**	EPA 200.2	661914	EPA 6020	662113
50308814006	**MW-32D2**	EPA 200.2	661914	EPA 6020	662113
50308814007	**MW-33I**	EPA 200.2	661914	EPA 6020	662113
50308814008	**MW-33D2**	EPA 200.2	661914	EPA 6020	662113
50308814001	**MW-34D2**	EPA 903.1	484744		
50308814002	**MW-30D2**	EPA 903.1	484744		
50308814003	**MW-35D2**	EPA 903.1	484744		
50308814004	**MW-35D1**	EPA 903.1	484744		
50308814005	**MW-32D1**	EPA 903.1	484744		
50308814006	**MW-32D2**	EPA 903.1	486625		
50308814007	**MW-33I**	EPA 903.1	484744		
50308814008	**MW-33D2**	EPA 903.1	484744		
50308814009	**MW-33I RAD MS**	EPA 903.1	484744		
50308814010	**MW-33I RAD MSD**	EPA 903.1	484744		
50308814001	**MW-34D2**	EPA 904.0	484745		
50308814002	**MW-30D2**	EPA 904.0	484745		
50308814003	**MW-35D2**	EPA 904.0	484745		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308814004	**MW-35D1**	EPA 904.0	484745		
50308814005	**MW-32D1**	EPA 904.0	484745		
50308814006	**MW-32D2**	EPA 904.0	486626		
50308814007	**MW-33I**	EPA 904.0	484745		
50308814008	**MW-33D2**	EPA 904.0	484745		
50308814009	**MW-33I RAD MS**	EPA 904.0	484745		
50308814010	**MW-33I RAD MSD**	EPA 904.0	484745		
50308814001	**MW-34D2**	Total Radium Calculation	487497		
50308814002	**MW-30D2**	Total Radium Calculation	487497		
50308814003	**MW-35D2**	Total Radium Calculation	487497		
50308814004	**MW-35D1**	Total Radium Calculation	487497		
50308814005	**MW-32D1**	Total Radium Calculation	487497		
50308814006	**MW-32D2**	Total Radium Calculation	490240		
50308814007	**MW-33I**	Total Radium Calculation	487497		
50308814008	**MW-33D2**	Total Radium Calculation	487497		
50308814001	**MW-34D2**	SM 2320B	661891		
50308814002	**MW-30D2**	SM 2320B	661891		
50308814003	**MW-35D2**	SM 2320B	661891		
50308814004	**MW-35D1**	SM 2320B	661891		
50308814005	**MW-32D1**	SM 2320B	661891		
50308814006	**MW-32D2**	SM 2320B	661891		
50308814007	**MW-33I**	SM 2320B	662244		
50308814008	**MW-33D2**	SM 2320B	662244		
50308814001	**MW-34D2**	SM 2540C	661752		
50308814002	**MW-30D2**	SM 2540C	661752		
50308814003	**MW-35D2**	SM 2540C	661752		
50308814004	**MW-35D1**	SM 2540C	661752		
50308814005	**MW-32D1**	SM 2540C	661752		
50308814006	**MW-32D2**	SM 2540C	661752		
50308814007	**MW-33I**	SM 2540C	661752		
50308814008	**MW-33D2**	SM 2540C	661752		
50308814001	**MW-34D2**	SM 4500-H+B	662235		
50308814002	**MW-30D2**	SM 4500-H+B	662235		
50308814003	**MW-35D2**	SM 4500-H+B	662235		
50308814004	**MW-35D1**	SM 4500-H+B	662235		
50308814005	**MW-32D1**	SM 4500-H+B	662235		
50308814006	**MW-32D2**	SM 4500-H+B	662235		
50308814007	**MW-33I**	SM 4500-H+B	662235		
50308814008	**MW-33D2**	SM 4500-H+B	662235		
50308814001	**MW-34D2**	SM 4500-S2-D	662020		
50308814002	**MW-30D2**	SM 4500-S2-D	662020		
50308814003	**MW-35D2**	SM 4500-S2-D	662020		
50308814004	**MW-35D1**	SM 4500-S2-D	662020		
50308814005	**MW-32D1**	SM 4500-S2-D	662020		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308814

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308814006	**MW-32D2**	SM 4500-S2-D	662020		
50308814007	**MW-33I**	SM 4500-S2-D	662020		
50308814008	**MW-33D2**	SM 4500-S2-D	662020		
50308814001	**MW-34D2**	EPA 353.2	661640		
50308814002	**MW-30D2**	EPA 353.2	661640		
50308814003	**MW-35D2**	EPA 353.2	661640		
50308814004	**MW-35D1**	EPA 353.2	661640		
50308814005	**MW-32D1**	EPA 353.2	661640		
50308814006	**MW-32D2**	EPA 353.2	661640		
50308814007	**MW-33I**	EPA 353.2	661640		
50308814008	**MW-33D2**	EPA 353.2	661640		
50308814001	**MW-34D2**	EPA 365.1	662329	EPA 365.1	662429
50308814002	**MW-30D2**	EPA 365.1	662329	EPA 365.1	662429
50308814003	**MW-35D2**	EPA 365.1	662329	EPA 365.1	662429
50308814004	**MW-35D1**	EPA 365.1	662329	EPA 365.1	662429
50308814005	**MW-32D1**	EPA 365.1	662329	EPA 365.1	662429
50308814006	**MW-32D2**	EPA 365.1	662394	EPA 365.1	662430
50308814007	**MW-33I**	EPA 365.1	662394	EPA 365.1	662430
50308814008	**MW-33D2**	EPA 365.1	662394	EPA 365.1	662430
50308814001	**MW-34D2**	SM 5310C	661988		
50308814002	**MW-30D2**	SM 5310C	661988		
50308814003	**MW-35D2**	SM 5310C	661988		
50308814004	**MW-35D1**	SM 5310C	661988		
50308814005	**MW-32D1**	SM 5310C	662418		
50308814006	**MW-32D2**	SM 5310C	662418		
50308814007	**MW-33I**	SM 5310C	662418		
50308814008	**MW-33D2**	SM 5310C	662418		
50308814001	**MW-34D2**	SM 5310C	662619		
50308814002	**MW-30D2**	SM 5310C	662619		
50308814003	**MW-35D2**	SM 5310C	662619		
50308814004	**MW-35D1**	SM 5310C	662619		
50308814005	**MW-32D1**	SM 5310C	662619		
50308814006	**MW-32D2**	SM 5310C	662619		
50308814007	**MW-33I**	SM 5310C	662618		
50308814008	**MW-33D2**	SM 5310C	662619		

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CHAIN-OF-CUSTODY / Analytic

The Chain-of-Custody is a LEGAL DOCUMENT.

WO# : 50308814

50308814

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: CCR Sampling Profile 5 Report 1	Pace Project Manager: Hayden Putt
Requested Due Date:		Project #:	Pace Profile #: 8296/13

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*, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)	
1	MW-34D2	WT		920	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		001
2	MW-30D2	WT		1315	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		002
3	MW-35D2	WT		1005	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		003
4	MW-35D1	WT		1125	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		004
5	MW-32D1	WT		1700	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		005
6	MW-32D2	WT		1530	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		006
7	MW-33I (MS/MSD)	WT		900	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		007
8	MW-33D2	WT		1120	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		008
9	MS (MW-33I)	WT		900	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		
10	MSD (MW-33I)	WT		900	2/9				12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		
11		WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X		
12		WT							12	4	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)	Jon Hill	2/9	1133	P. Greg Hopper	1730	2/9				
6020 (Be, Co, As, Se, Sb, Tl)	P. Greg Hopper	2/10	0630		2140	0830	see COR	Y	N	Y
** Dissolved FF 6010 (Mo, Mn); 6020 As										
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:	P. Greg Hopper				
SIGNATURE of SAMPLER:	DATE Signed: 2/10/22				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 2/10/22 SMK 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 Comment

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 wet	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1130			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~~ – 1.3/0.7 2.1/1.5 2.0/1.4 1.5/0.9 4.0/3.4

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			2		4	1	1	1		1					WT	✓	✓	
2																															
3																															
4																															
5																															
6																															
7												3	3			6		12	3	3	3		3								
8												1	1			2		4	1	1	1		1								
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

March 14, 2022

Wil Teague
AES
6925 North Highway 57
Petersburg, IN 47567

RE: Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Dear Wil Teague:

Enclosed are the analytical results for sample(s) received by the laboratory on February 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. 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 P5R1
Pace Project No.: 50308922

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 P5R1
Pace Project No.: 50308922

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50308922001	**MW-34SS**	Water	02/10/22 08:40	02/11/22 07:30
50308922002	**MW-35SS**	Water	02/10/22 10:07	02/11/22 07:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50308922001	**MW-34SS**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50308922002	**MW-35SS**	EPA 9056	BK1	3	PASI-I
		EPA 6010	RAM	15	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	6	PASI-I
		EPA 6020	DMT	1	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	SWJ	1	PASI-I
		SM 4500-S2-D	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	GWA	1	PASI-I
		SM 5310C	GWA	1	PASI-I
		SM 5310C	MMS	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 P5R1
Pace Project No.: 50308922

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308922001	**MW-34SS**					
EPA 9056	Chloride	3.0	mg/L	0.25	02/11/22 23:54	
EPA 9056	Sulfate	20.9	mg/L	0.25	02/11/22 23:54	
EPA 6010	Aluminum	5860	ug/L	200	02/21/22 14:11	
EPA 6010	Barium	314	ug/L	10.0	02/21/22 14:11	
EPA 6010	Boron	226	ug/L	100	02/21/22 14:11	
EPA 6010	Calcium	70000	ug/L	1000	02/21/22 14:11	
EPA 6010	Chromium	14.4	ug/L	10.0	02/21/22 14:11	
EPA 6010	Iron	8810	ug/L	100	02/21/22 14:11	
EPA 6010	Lithium	26.3	ug/L	20.0	02/21/22 14:11	
EPA 6010	Magnesium	16900	ug/L	1000	02/21/22 14:11	
EPA 6010	Manganese	528	ug/L	10.0	02/21/22 14:11	
EPA 6010	Molybdenum	94.6	ug/L	10.0	02/21/22 14:11	
EPA 6010	Potassium	6390	ug/L	1000	02/21/22 14:11	
EPA 6010	Silica	31800	ug/L	450	02/21/22 14:11	N2
EPA 6010	Sodium	55100	ug/L	1000	02/21/22 14:11	
EPA 6010	Manganese, Dissolved	388	ug/L	10.0	02/15/22 23:35	
EPA 6010	Molybdenum, Dissolved	97.6	ug/L	10.0	02/15/22 23:35	
EPA 6020	Antimony	2.2	ug/L	1.0	02/16/22 02:12	
EPA 6020	Arsenic	4.3	ug/L	1.0	02/16/22 02:12	
EPA 6020	Beryllium	0.43	ug/L	0.20	02/16/22 02:12	
EPA 6020	Cobalt	6.0	ug/L	1.0	02/16/22 02:12	
EPA 6020	Selenium	4.4	ug/L	1.0	02/16/22 02:12	
EPA 6020	Arsenic, Dissolved	1.8	ug/L	1.0	02/15/22 03:47	
EPA 903.1	Radium-226	1.40 ± 0.842 (0.344) C:NA T:95%	pCi/L		03/10/22 11:32	
EPA 904.0	Radium-228	3.32 ± 1.57 (2.63) C:86% T:85%	pCi/L		03/07/22 14:30	
Total Radium Calculation	Total Radium	4.72 ± 2.41 (2.97)	pCi/L		03/13/22 14:43	
SM 2320B	Alkalinity, Total as CaCO3	304	mg/L	2.0	02/16/22 20:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	304	mg/L	2.0	02/16/22 20:08	
SM 2540C	Total Dissolved Solids	330	mg/L	10.0	02/14/22 10:43	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	02/15/22 15:00	H3
EPA 365.1	Phosphate as P04	0.56	mg/L	0.15	02/23/22 09:18	
SM 5310C	Total Organic Carbon	5.0	mg/L	1.0	02/20/22 02:27	
SM 5310C	Dissolved Organic Carbon	5.7	mg/L	1.0	02/22/22 19:32	
50308922002	**MW-35SS**					
EPA 9056	Chloride	3.1	mg/L	0.25	02/12/22 00:43	
EPA 9056	Sulfate	22.2	mg/L	0.25	02/12/22 00:43	
EPA 6010	Aluminum	195000	ug/L	200	02/21/22 14:13	
EPA 6010	Barium	2010	ug/L	10.0	02/21/22 14:13	
EPA 6010	Boron	615	ug/L	100	02/21/22 14:13	
EPA 6010	Cadmium	9.8	ug/L	2.0	02/21/22 14:13	
EPA 6010	Calcium	113000	ug/L	1000	02/21/22 14:13	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SUMMARY OF DETECTION

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50308922002	**MW-35SS**					
EPA 6010	Chromium	380	ug/L	10.0	02/21/22 14:13	
EPA 6010	Iron	558000	ug/L	500	02/21/22 16:00	
EPA 6010	Lead	150	ug/L	10.0	02/21/22 14:13	
EPA 6010	Lithium	498	ug/L	20.0	02/21/22 14:13	
EPA 6010	Magnesium	101000	ug/L	1000	02/21/22 14:13	
EPA 6010	Manganese	9900	ug/L	10.0	02/21/22 14:13	
EPA 6010	Molybdenum	164	ug/L	10.0	02/21/22 14:13	
EPA 6010	Potassium	37500	ug/L	1000	02/21/22 14:13	
EPA 6010	Silica	91200	ug/L	450	02/21/22 14:13	N2
EPA 6010	Sodium	112000	ug/L	1000	02/21/22 14:13	
EPA 6010	Lithium, Dissolved	21.7	ug/L	20.0	02/15/22 23:41	
EPA 6010	Manganese, Dissolved	76.7	ug/L	10.0	02/15/22 23:41	
EPA 6010	Molybdenum, Dissolved	90.8	ug/L	10.0	02/15/22 23:41	
EPA 6020	Arsenic	119	ug/L	20.0	02/16/22 01:43	
EPA 6020	Beryllium	14.4	ug/L	1.0	02/16/22 02:00	
EPA 6020	Cobalt	219	ug/L	5.0	02/16/22 02:00	
EPA 6020	Selenium	124	ug/L	20.0	02/16/22 01:43	
EPA 6020	Arsenic, Dissolved	5.2	ug/L	1.0	02/15/22 03:51	
SM 2320B	Alkalinity, Total as CaCO3	326	mg/L	2.0	02/16/22 20:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	306	mg/L	2.0	02/16/22 20:08	
SM 2320B	Alkalinity,Carbonate (CaCO3)	20.0	mg/L	2.0	02/16/22 20:08	
SM 2540C	Total Dissolved Solids	640	mg/L	200	02/14/22 10:44	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	02/15/22 15:01	H3
EPA 365.1	Phosphate as P04	24.7	mg/L	1.5	02/23/22 10:21	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	02/20/22 03:01	
SM 5310C	Dissolved Organic Carbon	3.0	mg/L	1.0	02/22/22 19:43	

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Sample: MW-34SS **Lab ID: 50308922001** Collected: 02/10/22 08:40 Received: 02/11/22 07:30 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	**3.0**	mg/L	0.25	1		02/11/22 23:54	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/11/22 23:54	16984-48-8	
Sulfate	**20.9**	mg/L	0.25	1		02/11/22 23:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**5860**	ug/L	200	1	02/17/22 16:04	02/21/22 14:11	7429-90-5	
Barium	**314**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:11	7440-39-3	
Boron	**226**	ug/L	100	1	02/17/22 16:04	02/21/22 14:11	7440-42-8	
Cadmium	ND	ug/L	2.0	1	02/17/22 16:04	02/21/22 14:11	7440-43-9	
Calcium	**70000**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:11	7440-70-2	
Chromium	**14.4**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:11	7440-47-3	
Iron	**8810**	ug/L	100	1	02/17/22 16:04	02/21/22 14:11	7439-89-6	
Lead	ND	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:11	7439-92-1	
Lithium	**26.3**	ug/L	20.0	1	02/17/22 16:04	02/21/22 14:11	7439-93-2	
Magnesium	**16900**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:11	7439-95-4	
Manganese	**528**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:11	7439-96-5	
Molybdenum	**94.6**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:11	7439-98-7	
Potassium	**6390**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:11	7440-09-7	
Silica	**31800**	ug/L	450	1	02/17/22 16:04	02/21/22 14:11	7631-86-9	N2
Sodium	**55100**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:11	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	ND	ug/L	20.0	1	02/15/22 12:45	02/15/22 23:35	7439-93-2	
Manganese, Dissolved	**388**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:35	7439-96-5	
Molybdenum, Dissolved	**97.6**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:35	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**2.2**	ug/L	1.0	1	02/14/22 10:00	02/16/22 02:12	7440-36-0	
Arsenic	**4.3**	ug/L	1.0	1	02/14/22 10:00	02/16/22 02:12	7440-38-2	
Beryllium	**0.43**	ug/L	0.20	1	02/14/22 10:00	02/16/22 02:12	7440-41-7	
Cobalt	**6.0**	ug/L	1.0	1	02/14/22 10:00	02/16/22 02:12	7440-48-4	
Selenium	**4.4**	ug/L	1.0	1	02/14/22 10:00	02/16/22 02:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	02/14/22 10:00	02/16/22 02:12	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.8**	ug/L	1.0	1	02/13/22 15:30	02/15/22 03:47	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**304**	mg/L	2.0	1		02/16/22 20:08		
Alkalinity,Bicarbonate (CaCO3)	**304**	mg/L	2.0	1		02/16/22 20:08		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Sample: MW-34SS **Lab ID: 50308922001** Collected: 02/10/22 08:40 Received: 02/11/22 07:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		02/16/22 20:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**330**	mg/L	10.0	1		02/14/22 10:43		
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		02/15/22 15:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		02/14/22 16:31	18496-25-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/11/22 17:45	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/11/22 17:45	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**0.56**	mg/L	0.15	1	02/17/22 10:00	02/23/22 09:18		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**5.0**	mg/L	1.0	1		02/20/22 02:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**5.7**	mg/L	1.0	1		02/22/22 19:32		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Sample: MW-35SS **Lab ID: 50308922002** Collected: 02/10/22 10:07 Received: 02/11/22 07:30 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	**3.1**	mg/L	0.25	1		02/12/22 00:43	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/12/22 00:43	16984-48-8	
Sulfate	**22.2**	mg/L	0.25	1		02/12/22 00:43	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**195000**	ug/L	200	1	02/17/22 16:04	02/21/22 14:13	7429-90-5	
Barium	**2010**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:13	7440-39-3	
Boron	**615**	ug/L	100	1	02/17/22 16:04	02/21/22 14:13	7440-42-8	
Cadmium	**9.8**	ug/L	2.0	1	02/17/22 16:04	02/21/22 14:13	7440-43-9	
Calcium	**113000**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:13	7440-70-2	
Chromium	**380**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:13	7440-47-3	
Iron	**558000**	ug/L	500	5	02/17/22 16:04	02/21/22 16:00	7439-89-6	
Lead	**150**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:13	7439-92-1	
Lithium	**498**	ug/L	20.0	1	02/17/22 16:04	02/21/22 14:13	7439-93-2	
Magnesium	**101000**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:13	7439-95-4	
Manganese	**9900**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:13	7439-96-5	
Molybdenum	**164**	ug/L	10.0	1	02/17/22 16:04	02/21/22 14:13	7439-98-7	
Potassium	**37500**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:13	7440-09-7	
Silica	**91200**	ug/L	450	1	02/17/22 16:04	02/21/22 14:13	7631-86-9	N2
Sodium	**112000**	ug/L	1000	1	02/17/22 16:04	02/21/22 14:13	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Lithium, Dissolved	**21.7**	ug/L	20.0	1	02/15/22 12:45	02/15/22 23:41	7439-93-2	
Manganese, Dissolved	**76.7**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:41	7439-96-5	
Molybdenum, Dissolved	**90.8**	ug/L	10.0	1	02/15/22 12:45	02/15/22 23:41	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	5.0	5	02/14/22 10:00	02/16/22 02:00	7440-36-0	D3
Arsenic	**119**	ug/L	20.0	20	02/14/22 10:00	02/16/22 01:43	7440-38-2	
Beryllium	**14.4**	ug/L	1.0	5	02/14/22 10:00	02/16/22 02:00	7440-41-7	
Cobalt	**219**	ug/L	5.0	5	02/14/22 10:00	02/16/22 02:00	7440-48-4	
Selenium	**124**	ug/L	20.0	20	02/14/22 10:00	02/16/22 01:43	7782-49-2	
Thallium	ND	ug/L	5.0	5	02/14/22 10:00	02/16/22 02:00	7440-28-0	D3
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**5.2**	ug/L	1.0	1	02/13/22 15:30	02/15/22 03:51	7440-38-2	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**326**	mg/L	2.0	1		02/16/22 20:08		
Alkalinity,Bicarbonate (CaCO3)	**306**	mg/L	2.0	1		02/16/22 20:08		

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ANALYTICAL RESULTS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Sample: MW-35SS **Lab ID: 50308922002** Collected: 02/10/22 10:07 Received: 02/11/22 07:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis							
Alkalinity,Carbonate (CaCO3)	**20.0**	mg/L	2.0	1		02/16/22 20:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**640**	mg/L	200	1		02/14/22 10:44		
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		02/15/22 15:01		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.50	5		02/14/22 16:31	18496-25-8	D3
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	ND	mg/L	0.037	1		02/11/22 17:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.013	1		02/11/22 17:50	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**24.7**	mg/L	1.5	10	02/17/22 10:00	02/23/22 10:21		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		02/20/22 03:01	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		02/22/22 19:43		

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661730
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3047715 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	02/11/22 19:32	
Fluoride	mg/L	ND	0.10	02/11/22 19:32	
Sulfate	mg/L	ND	0.25	02/11/22 19:32	

LABORATORY CONTROL SAMPLE: 3047716

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	0.53	107	80-120	
Sulfate	mg/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047717 3047718

Parameter	Units	50308889001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	37.6	12.5	12.5	51.7	51.9	113	114	80-120	0	15	
Fluoride	mg/L	0.58	0.5	0.5	1.1	1.1	101	102	80-120	0	15	
Sulfate	mg/L	22.8	25	25	45.6	45.6	91	91	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047719 3047720

Parameter	Units	50308889005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.3	12.5	12.5	37.6	38.0	98	101	80-120	1	15	
Fluoride	mg/L	0.64	0.5	0.5	1.1	1.2	101	101	80-120	0	15	
Sulfate	mg/L	<2.0	2.5	2.5	2.9	2.7	100	94	80-120	5	15	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661851
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3048264 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	02/21/22 13:13	
Barium	ug/L	ND	10.0	02/21/22 13:13	
Boron	ug/L	ND	100	02/21/22 13:13	
Cadmium	ug/L	ND	2.0	02/21/22 13:13	
Calcium	ug/L	ND	1000	02/21/22 13:13	
Chromium	ug/L	ND	10.0	02/21/22 13:13	
Iron	ug/L	ND	100	02/21/22 13:13	
Lead	ug/L	ND	10.0	02/21/22 13:13	
Lithium	ug/L	ND	20.0	02/21/22 13:13	
Magnesium	ug/L	ND	1000	02/21/22 13:13	
Manganese	ug/L	ND	10.0	02/21/22 13:13	
Molybdenum	ug/L	ND	10.0	02/21/22 13:13	
Potassium	ug/L	ND	1000	02/21/22 13:13	
Silica	ug/L	ND	450	02/21/22 13:13	N2
Sodium	ug/L	ND	1000	02/21/22 13:13	

LABORATORY CONTROL SAMPLE: 3048265

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9820	98	80-120	
Barium	ug/L	1000	1000	100	80-120	
Boron	ug/L	1000	961	96	80-120	
Cadmium	ug/L	1000	934	93	80-120	
Calcium	ug/L	10000	9970	100	80-120	
Chromium	ug/L	1000	990	99	80-120	
Iron	ug/L	10000	9440	94	80-120	
Lead	ug/L	1000	913	91	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	9380	94	80-120	
Manganese	ug/L	1000	924	92	80-120	
Molybdenum	ug/L	1000	1000	100	80-120	
Potassium	ug/L	10000	10000	100	80-120	
Silica	ug/L	10700	9420	88	80-120	N2
Sodium	ug/L	10000	9930	99	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048266 3048267

Parameter	Units	50308843004 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	10700	10400	107	104	75-125	2	20	
Barium	ug/L	0.016 mg/L	1000	1000	1140	1100	112	109	75-125	3	20	
Boron	ug/L	3.3 mg/L	1000	1000	4400	4370	114	111	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1070	1040	107	104	75-125	3	20	
Calcium	ug/L	126 mg/L	10000	10000	137000	138000	112	121	75-125	1	20	
Chromium	ug/L	ND	1000	1000	1030	1000	103	100	75-125	3	20	
Iron	ug/L	ND	10000	10000	9750	9620	97	96	75-125	1	20	
Lead	ug/L	ND	1000	1000	883	859	88	86	75-125	3	20	
Lithium	ug/L	1.0 mg/L	1000	1000	2150	2090	113	107	75-125	3	20	
Magnesium	ug/L	71.3 mg/L	10000	10000	81200	82300	99	110	75-125	1	20	
Manganese	ug/L	0.076 mg/L	1000	1000	1050	1040	98	96	75-125	2	20	
Molybdenum	ug/L	ND	1000	1000	1060	1020	106	102	75-125	3	20	
Potassium	ug/L	42.7 mg/L	10000	10000	55100	54900	124	122	75-125	0	20	
Silica	ug/L	6.7 mg/L	10700	10700	17500	16900	101	95	75-125	4	20	N2
Sodium	ug/L	1990 mg/L	10000	10000	2090000	2020000	1010	292	75-125	4	20	P6

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661863
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3048307 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	ug/L	ND	20.0	02/15/22 23:02	
Manganese, Dissolved	ug/L	ND	10.0	02/15/22 23:02	
Molybdenum, Dissolved	ug/L	ND	10.0	02/15/22 23:02	

LABORATORY CONTROL SAMPLE: 3048308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Manganese, Dissolved	ug/L	1000	946	95	80-120	
Molybdenum, Dissolved	ug/L	1000	991	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048309 3048310

Parameter	Units	50308814007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	ug/L	227	1000	1000	1320	1370	110	114	75-125	3	20	
Manganese, Dissolved	ug/L	2640	1000	1000	3790	3840	115	120	75-125	1	20	
Molybdenum, Dissolved	ug/L	23.3	1000	1000	1060	1100	104	108	75-125	4	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661947
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3048689 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	02/16/22 01:26	
Arsenic	ug/L	ND	1.0	02/16/22 01:26	
Beryllium	ug/L	ND	0.20	02/16/22 01:26	
Cobalt	ug/L	ND	1.0	02/16/22 01:26	
Selenium	ug/L	ND	1.0	02/16/22 01:26	
Thallium	ug/L	ND	1.0	02/16/22 01:26	

LABORATORY CONTROL SAMPLE: 3048690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.7	107	80-120	
Arsenic	ug/L	40	39.4	98	80-120	
Beryllium	ug/L	40	40.9	102	80-120	
Cobalt	ug/L	40	40.9	102	80-120	
Selenium	ug/L	40	37.5	94	80-120	
Thallium	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048691 3048692

Parameter	Units	50308888001 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	42.6	103	106	75-125	2	20	
Arsenic	ug/L	7.0	40	40	47.2	47.1	101	100	75-125	0	20	
Beryllium	ug/L	ND	40	40	35.0	37.0	87	92	75-125	5	20	
Cobalt	ug/L	ND	40	40	37.2	38.2	91	93	75-125	3	20	
Selenium	ug/L	27.7	40	40	71.0	71.8	108	110	75-125	1	20	
Thallium	ug/L	ND	40	40	39.5	40.5	99	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661913
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3048600 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	02/15/22 03:39	

LABORATORY CONTROL SAMPLE: 3048601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	38.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048602 3048603

Parameter	Units	50308978005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	40	40	39.1	38.7	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 662413
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3050278 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	02/16/22 20:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	02/16/22 20:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	02/16/22 20:08	

LABORATORY CONTROL SAMPLE: 3050279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.8	98	90-110	

SAMPLE DUPLICATE: 3050280

Parameter	Units	50308911004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	408	413	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	408	413	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3050281

Parameter	Units	50308912001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	794	810	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	794	810	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661980
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3048796 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/14/22 10:39	

LABORATORY CONTROL SAMPLE: 3048797

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

SAMPLE DUPLICATE: 3048798

Parameter	Units	50308978011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2390	2350	2	10	

SAMPLE DUPLICATE: 3048799

Parameter	Units	50308978002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1990	1980	0	10	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 662235
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: 50308922001, 50308922002

SAMPLE DUPLICATE: 3049565

Parameter	Units	50309048001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3049566

Parameter	Units	50308814007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	1	2	H3

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 662025
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: 50308922001, 50308922002

METHOD BLANK: 3048938 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	02/14/22 16:31	

LABORATORY CONTROL SAMPLE: 3048939

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: 3048940 3048941

Parameter	Units	50308994003 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	0.45	0.45	89	90	90-110	1	20	M0

MATRIX SPIKE SAMPLE: 3048942

Parameter	Units	50308994004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.39	75	90-110	M0

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 661790
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: 50308922001, 50308922002

METHOD BLANK: 3047959 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.037	02/11/22 17:41	
Nitrogen, Nitrite	mg/L	ND	0.013	02/11/22 17:41	

LABORATORY CONTROL SAMPLE: 3047960

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	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3047961 3047962

Parameter	Units	50308922001 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	0.98	100	98	90-110	2	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	107	108	90-110	0	20	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 662548
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: 50308922001, 50308922002

METHOD BLANK: 3050850 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	02/23/22 09:13	

LABORATORY CONTROL SAMPLE: 3050851

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050852 3050853

Parameter	Units	50308911012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	2.2			3.5	3.7				5		

MATRIX SPIKE SAMPLE: 3050854

Parameter	Units	50309183002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.57		1.9			

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 662829
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3052228 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/19/22 23:15	

LABORATORY CONTROL SAMPLE: 3052229

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: 3052230 3052231

Parameter	Units	50308889005 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	0.84	10	10	10.9	10.8	101	100	80-120	1	20	

MATRIX SPIKE SAMPLE: 3052232

Parameter	Units	50308977005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.3	104	80-120	

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QUALITY CONTROL DATA

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 663160
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50308922001, 50308922002

METHOD BLANK: 3053870 Matrix: Water
Associated Lab Samples: 50308922001, 50308922002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	02/22/22 18:27	

LABORATORY CONTROL SAMPLE: 3053871

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: 3053872 3053873

Parameter	Units	50308994003 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	3.4	10	10	13.3	13.2	99	98	80-120	0	20	

MATRIX SPIKE SAMPLE: 3053874

Parameter	Units	50309165003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	18.9	40	59.5	102	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Sample: MW-34SS **Lab ID: 50308922001** Collected: 02/10/22 08:40 Received: 02/11/22 07:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.40 ± 0.842 (0.344) C:NA T:95%**	pCi/L	03/10/22 11:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**3.32 ± 1.57 (2.63) C:86% T:85%**	pCi/L	03/07/22 14:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.72 ± 2.41 (2.97)**	pCi/L	03/13/22 14:43	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 484767
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: 50308922001

METHOD BLANK: 2344479 Matrix: Water
Associated Lab Samples: 50308922001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.206 ± 0.243 (0.512) C:95% T:95%	pCi/L	03/07/22 14:32	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

QC Batch: 484766
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: 50308922001

METHOD BLANK: 2344478 Matrix: Water
Associated Lab Samples: 50308922001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0489 ± 0.223 (0.360) C:NA T:97%	pCi/L	03/10/22 11:32	

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QUALIFIERS

Project: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

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.
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: IDEM - CCR Sampling P5R1
Pace Project No.: 50308922

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50308922001	**MW-34SS**	EPA 9056	661730		
50308922002	**MW-35SS**	EPA 9056	661730		
50308922001	**MW-34SS**	EPA 3010	661851	EPA 6010	662985
50308922002	**MW-35SS**	EPA 3010	661851	EPA 6010	662985
50308922001	**MW-34SS**	EPA 3010	661863	EPA 6010	662311
50308922002	**MW-35SS**	EPA 3010	661863	EPA 6010	662311
50308922001	**MW-34SS**	EPA 200.2	661947	EPA 6020	662116
50308922002	**MW-35SS**	EPA 200.2	661947	EPA 6020	662116
50308922001	**MW-34SS**	EPA 200.2	661913	EPA 6020	661929
50308922002	**MW-35SS**	EPA 200.2	661913	EPA 6020	661929
50308922001	**MW-34SS**	EPA 903.1	484766		
50308922001	**MW-34SS**	EPA 904.0	484767		
50308922001	**MW-34SS**	Total Radium Calculation	489943		
50308922001	**MW-34SS**	SM 2320B	662413		
50308922002	**MW-35SS**	SM 2320B	662413		
50308922001	**MW-34SS**	SM 2540C	661980		
50308922002	**MW-35SS**	SM 2540C	661980		
50308922001	**MW-34SS**	SM 4500-H+B	662235		
50308922002	**MW-35SS**	SM 4500-H+B	662235		
50308922001	**MW-34SS**	SM 4500-S2-D	662025		
50308922002	**MW-35SS**	SM 4500-S2-D	662025		
50308922001	**MW-34SS**	EPA 353.2	661790		
50308922002	**MW-35SS**	EPA 353.2	661790		
50308922001	**MW-34SS**	EPA 365.1	662548	EPA 365.1	662797
50308922002	**MW-35SS**	EPA 365.1	662548	EPA 365.1	662797
50308922001	**MW-34SS**	SM 5310C	662829		
50308922002	**MW-35SS**	SM 5310C	662829		
50308922001	**MW-34SS**	SM 5310C	663160		
50308922002	**MW-35SS**	SM 5310C	663160		

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WO# : 50308922

50308922

Section C

Project Information:

Invoice Information:

Page : 2 Of 2

Address: 6925 IN-57	Copy To:	Attention:	
Petersburg, IN 47567		Company Name:	
Email: wil.teague@aes.com	Purchase Order #:	Address:	
Phone: (812)354-8801 Fax:	Project Name: CCR Sampling Profile 5 Report 1	Pace Quote:	
Requested Due Date:	Project #:	Pace Project Manager: Hayden Putt	
		Pace Profile #: 8296/13	

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	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*, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate		Residual Chlorine (Y/N)	
13	~~MW-35DT~~ MW-34SS	WT				2-10-22	840		12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
14	MW-35SS	WT				↓	1007		~~12~~	4	3	4		1					X	X	X	X	●	●	X	X	X	X	X			
15	~~MW-35D2~~	WT						10	12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
16	~~DUP 1~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
17	~~DUP 2~~	WT							12	4	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
18	~~FIELD BLANK~~	WT							12	4	3	4		1					X	X	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, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	J Hill / Atlas	2.11.22	730	[signature]	2-11-22	7:30	1.4	y	N	y
6020 (Be, Co, As, Se, Sb, Tl)										
** Dissolved FF 6010 (Mo, Mn); 6020 As										
Alkalinity = (Total , Bicarb & Carb)										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

No Radium samples at MW-35SS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Hill

SIGNATURE of SAMPLER: J Hill

DATE Signed: 2.11.22

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 2-11-22 10:02

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
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:** NO_3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 10:55	✓
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:

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												12				2		4	1	1	1		1					WT	✓	✓	
2												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	

APRIL 2022

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

April 25, 2022

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

RE: Project: AES Petersburg April Event
Pace Project No.: 50314362

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 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

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CERTIFICATIONS

Project: AES Petersburg April Event
Pace Project No.: 50314362

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 Petersburg April Event
Pace Project No.: 50314362

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50314362001	**MW-30D2**	Water	04/19/22 14:30	04/20/22 16:10
50314362002	**MW-31D2**	Water	04/19/22 15:30	04/20/22 16:10
50314362003	**MW-32D1**	Water	04/19/22 12:20	04/20/22 16:10
50314362004	**MW-32D2**	Water	04/19/22 11:53	04/20/22 16:10
50314362005	**MW-34A**	Water	04/19/22 13:50	04/20/22 16:10
50314362006	**MW-34D1**	Water	04/19/22 13:20	04/20/22 16:10
50314362007	**MW-34D2**	Water	04/19/22 12:58	04/20/22 16:10
50314362008	**MW-35D1**	Water	04/19/22 11:25	04/20/22 16:10
50314362009	**MW-35D2**	Water	04/19/22 10:43	04/20/22 16:10

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SAMPLE ANALYTE COUNT

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50314362001	**MW-30D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362002	**MW-31D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362003	**MW-32D1**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362004	**MW-32D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362005	**MW-34A**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362006	**MW-34D1**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362007	**MW-34D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362008	**MW-35D1**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314362009	**MW-35D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1

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SAMPLE ANALYTE COUNT

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab ID	Sample ID	Method	Analysts	Analytes Reported

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50314362001	**MW-30D2**					
EPA 6010	Boron	726	ug/L	100	04/23/22 00:39	
EPA 6010	Calcium	3760	ug/L	1000	04/23/22 00:39	
EPA 6020	Antimony	1.1	ug/L	1.0	04/22/22 04:30	
EPA 6020	Arsenic	2.3	ug/L	1.0	04/22/22 04:30	
EPA 6020	Barium	76.5	ug/L	1.0	04/22/22 04:30	
EPA 6020	Beryllium	0.30	ug/L	0.20	04/22/22 04:30	
EPA 6020	Cadmium	0.22	ug/L	0.20	04/22/22 04:30	
EPA 6020	Chromium	9.1	ug/L	2.0	04/22/22 04:30	
EPA 6020	Cobalt	2.3	ug/L	1.0	04/22/22 04:30	
EPA 6020	Lead	2.8	ug/L	1.0	04/22/22 04:30	
EPA 6020	Molybdenum	13.2	ug/L	1.0	04/22/22 04:30	
EPA 6020	Selenium	1.5	ug/L	1.0	04/22/22 04:30	
SM 2540C	Total Dissolved Solids	378	mg/L	10.0	04/22/22 14:53	
SM 4500-H+B	pH at 25 Degrees C	8.8	Std. Units	0.10	04/21/22 14:34	H3
50314362002	**MW-31D2**					
EPA 6010	Boron	1080	ug/L	100	04/23/22 00:41	
EPA 6010	Calcium	18500	ug/L	1000	04/23/22 00:41	
EPA 6010	Lithium	21.7	ug/L	20.0	04/23/22 00:41	
EPA 6020	Arsenic	1.9	ug/L	1.0	04/22/22 04:35	
EPA 6020	Barium	249	ug/L	2.0	04/22/22 06:10	
EPA 6020	Molybdenum	35.7	ug/L	1.0	04/22/22 04:35	
SM 2540C	Total Dissolved Solids	454	mg/L	10.0	04/22/22 14:53	
SM 4500-H+B	pH at 25 Degrees C	8.0	Std. Units	0.10	04/21/22 14:37	H3
50314362003	**MW-32D1**					
EPA 6010	Calcium	89200	ug/L	1000	04/23/22 00:50	
EPA 6020	Arsenic	1.0	ug/L	1.0	04/22/22 04:39	
EPA 6020	Barium	67.6	ug/L	1.0	04/22/22 04:39	
EPA 6020	Cadmium	0.52	ug/L	0.20	04/22/22 04:39	
EPA 6020	Chromium	3.0	ug/L	2.0	04/22/22 04:39	
EPA 6020	Molybdenum	3.8	ug/L	1.0	04/22/22 04:39	
SM 2540C	Total Dissolved Solids	518	mg/L	10.0	04/22/22 14:54	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	04/21/22 14:25	H3
50314362004	**MW-32D2**					
EPA 6010	Boron	884	ug/L	100	04/23/22 00:53	
EPA 6010	Calcium	7670	ug/L	1000	04/23/22 00:53	
EPA 6010	Lithium	21.3	ug/L	20.0	04/23/22 00:53	
EPA 6020	Antimony	1.2	ug/L	1.0	04/22/22 04:51	
EPA 6020	Arsenic	3.2	ug/L	1.0	04/22/22 04:51	
EPA 6020	Barium	158	ug/L	1.0	04/22/22 04:51	
EPA 6020	Beryllium	0.41	ug/L	0.20	04/22/22 04:51	
EPA 6020	Cadmium	0.23	ug/L	0.20	04/22/22 04:51	
EPA 6020	Chromium	10.8	ug/L	2.0	04/22/22 04:51	
EPA 6020	Cobalt	3.3	ug/L	1.0	04/22/22 04:51	
EPA 6020	Lead	3.7	ug/L	1.0	04/22/22 04:51	
EPA 6020	Molybdenum	17.5	ug/L	1.0	04/22/22 04:51	
EPA 6020	Selenium	2.7	ug/L	1.0	04/22/22 04:51	

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SUMMARY OF DETECTION

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50314362004	**MW-32D2**					
SM 2540C	Total Dissolved Solids	381	mg/L	10.0	04/22/22 14:54	
SM 4500-H+B	pH at 25 Degrees C	8.7	Std. Units	0.10	04/21/22 14:22	H3
50314362005	**MW-34A**					
EPA 6010	Calcium	64800	ug/L	1000	04/23/22 00:55	
EPA 6020	Arsenic	1.6	ug/L	1.0	04/22/22 04:55	
EPA 6020	Barium	41.1	ug/L	1.0	04/22/22 04:55	
EPA 6020	Cobalt	1.4	ug/L	1.0	04/22/22 04:55	
EPA 6020	Molybdenum	1.7	ug/L	1.0	04/22/22 04:55	
SM 2540C	Total Dissolved Solids	296	mg/L	10.0	04/22/22 14:54	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	04/21/22 14:32	H3
50314362006	**MW-34D1**					
EPA 6010	Calcium	103000	ug/L	1000	04/23/22 00:57	
EPA 6020	Arsenic	1.2	ug/L	1.0	04/22/22 05:00	
EPA 6020	Barium	150	ug/L	1.0	04/22/22 05:00	
EPA 6020	Molybdenum	7.7	ug/L	1.0	04/22/22 05:00	
SM 2540C	Total Dissolved Solids	480	mg/L	10.0	04/22/22 14:55	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	04/21/22 14:28	H3
50314362007	**MW-34D2**					
EPA 6010	Boron	865	ug/L	100	04/23/22 00:59	
EPA 6010	Calcium	4490	ug/L	1000	04/23/22 00:59	
EPA 6020	Barium	103	ug/L	1.0	04/22/22 05:04	
EPA 6020	Chromium	3.3	ug/L	2.0	04/22/22 05:04	
EPA 6020	Molybdenum	11.9	ug/L	1.0	04/22/22 05:04	
SM 2540C	Total Dissolved Solids	409	mg/L	10.0	04/22/22 14:55	
SM 4500-H+B	pH at 25 Degrees C	8.6	Std. Units	0.10	04/21/22 14:27	H3
50314362008	**MW-35D1**					
EPA 6010	Calcium	123000	ug/L	1000	04/23/22 01:01	
EPA 6010	Lithium	28.8	ug/L	20.0	04/23/22 01:01	
EPA 6020	Barium	184	ug/L	1.0	04/22/22 05:08	
EPA 6020	Cobalt	1.3	ug/L	1.0	04/22/22 05:08	
EPA 6020	Molybdenum	14.3	ug/L	1.0	04/22/22 05:08	
SM 2540C	Total Dissolved Solids	635	mg/L	10.0	04/22/22 14:55	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	04/21/22 14:15	H3
50314362009	**MW-35D2**					
EPA 6010	Boron	1210	ug/L	100	04/23/22 01:03	
EPA 6010	Calcium	7290	ug/L	1000	04/23/22 01:03	
EPA 6020	Arsenic	2.4	ug/L	1.0	04/22/22 05:12	
EPA 6020	Barium	180	ug/L	2.0	04/22/22 06:14	
EPA 6020	Beryllium	0.22	ug/L	0.20	04/22/22 05:12	
EPA 6020	Chromium	3.0	ug/L	2.0	04/22/22 05:12	
EPA 6020	Cobalt	1.3	ug/L	1.0	04/22/22 05:12	
EPA 6020	Lead	1.7	ug/L	1.0	04/22/22 05:12	
EPA 6020	Molybdenum	14.5	ug/L	1.0	04/22/22 05:12	
SM 2540C	Total Dissolved Solids	329	mg/L	10.0	04/22/22 15:06	

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SUMMARY OF DETECTION

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50314362009	**MW-35D2**					
SM 4500-H+B	pH at 25 Degrees C	8.6	Std. Units	0.10	04/21/22 14:13	H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-30D2 **Lab ID: 50314362001** Collected: 04/19/22 14:30 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**726**	ug/L	100	1	04/22/22 08:17	04/23/22 00:39	7440-42-8	
Calcium	**3760**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:39	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:39	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	**1.1**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7440-38-2	
Barium	**76.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7440-39-3	
Beryllium	**0.30**	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:30	7440-41-7	
Cadmium	**0.22**	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:30	7440-43-9	
Chromium	**9.1**	ug/L	2.0	1	04/21/22 14:45	04/22/22 04:30	7440-47-3	
Cobalt	**2.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7440-48-4	
Lead	**2.8**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7439-92-1	
Molybdenum	**13.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7439-98-7	
Selenium	**1.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:30	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**378**	mg/L	10.0	1		04/22/22 14:53		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.8**	Std. Units	0.10	1		04/21/22 14:34		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-31D2 **Lab ID: 50314362002** Collected: 04/19/22 15:30 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1080**	ug/L	100	1	04/22/22 08:17	04/23/22 00:41	7440-42-8	
Calcium	**18500**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:41	7440-70-2	
Lithium	**21.7**	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:41	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	04/21/22 14:45	04/22/22 04:35	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7440-38-2	
Barium	**249**	ug/L	2.0	2	04/21/22 14:45	04/22/22 06:10	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:35	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:35	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 04:35	7440-47-3	
Cobalt	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7439-92-1	
Molybdenum	**35.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:35	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**454**	mg/L	10.0	1		04/22/22 14:53		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		04/21/22 14:37		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-32D1 **Lab ID: 50314362003** Collected: 04/19/22 12:20 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	04/22/22 08:17	04/23/22 00:50	7440-42-8	
Calcium	**89200**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:50	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:50	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	04/21/22 14:45	04/22/22 04:39	7440-36-0	
Arsenic	**1.0**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7440-38-2	
Barium	**67.6**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:39	7440-41-7	
Cadmium	**0.52**	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:39	7440-43-9	
Chromium	**3.0**	ug/L	2.0	1	04/21/22 14:45	04/22/22 04:39	7440-47-3	
Cobalt	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7439-92-1	
Molybdenum	**3.8**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:39	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**518**	mg/L	10.0	1		04/22/22 14:54		
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		04/21/22 14:25		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-32D2 **Lab ID: 50314362004** Collected: 04/19/22 11:53 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**884**	ug/L	100	1	04/22/22 08:17	04/23/22 00:53	7440-42-8	
Calcium	**7670**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:53	7440-70-2	
Lithium	**21.3**	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7440-36-0	
Arsenic	**3.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7440-38-2	
Barium	**158**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7440-39-3	
Beryllium	**0.41**	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:51	7440-41-7	
Cadmium	**0.23**	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:51	7440-43-9	
Chromium	**10.8**	ug/L	2.0	1	04/21/22 14:45	04/22/22 04:51	7440-47-3	
Cobalt	**3.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7440-48-4	
Lead	**3.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7439-92-1	
Molybdenum	**17.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7439-98-7	
Selenium	**2.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:51	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**381**	mg/L	10.0	1		04/22/22 14:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.7**	Std. Units	0.10	1		04/21/22 14:22		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-34A **Lab ID: 50314362005** Collected: 04/19/22 13:50 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	04/22/22 08:17	04/23/22 00:55	7440-42-8	
Calcium	**64800**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:55	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:55	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	04/21/22 14:45	04/22/22 04:55	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7440-38-2	
Barium	**41.1**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:55	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 04:55	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 04:55	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7439-92-1	
Molybdenum	**1.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 04:55	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**296**	mg/L	10.0	1		04/22/22 14:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		04/21/22 14:32		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-34D1 **Lab ID: 50314362006** Collected: 04/19/22 13:20 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	04/22/22 08:17	04/23/22 00:57	7440-42-8	
Calcium	**103000**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:57	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:57	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	04/21/22 14:45	04/22/22 05:00	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7440-38-2	
Barium	**150**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:00	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:00	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:00	7440-47-3	
Cobalt	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7439-92-1	
Molybdenum	**7.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:00	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**480**	mg/L	10.0	1		04/22/22 14:55		
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		04/21/22 14:28		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-34D2 **Lab ID: 50314362007** Collected: 04/19/22 12:58 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**865**	ug/L	100	1	04/22/22 08:17	04/23/22 00:59	7440-42-8	
Calcium	**4490**	ug/L	1000	1	04/22/22 08:17	04/23/22 00:59	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 00:59	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	04/21/22 14:45	04/22/22 05:04	7440-36-0	
Arsenic	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7440-38-2	
Barium	**103**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:04	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:04	7440-43-9	
Chromium	**3.3**	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:04	7440-47-3	
Cobalt	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7439-92-1	
Molybdenum	**11.9**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:04	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**409**	mg/L	10.0	1		04/22/22 14:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.6**	Std. Units	0.10	1		04/21/22 14:27		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314362

Sample: MW-35D1 **Lab ID: 50314362008** Collected: 04/19/22 11:25 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	04/22/22 08:17	04/23/22 01:01	7440-42-8	
Calcium	**123000**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:01	7440-70-2	
Lithium	**28.8**	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:01	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	04/21/22 14:45	04/22/22 05:08	7440-36-0	
Arsenic	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7440-38-2	
Barium	**184**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:08	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:08	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:08	7440-47-3	
Cobalt	**1.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7439-92-1	
Molybdenum	**14.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:08	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**635**	mg/L	10.0	1		04/22/22 14:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		04/21/22 14:15		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 Petersburg April Event
Pace Project No.: 50314362

Sample: MW-35D2 **Lab ID: 50314362009** Collected: 04/19/22 10:43 Received: 04/20/22 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1210**	ug/L	100	1	04/22/22 08:17	04/23/22 01:03	7440-42-8	
Calcium	**7290**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:03	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:03	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	04/21/22 14:45	04/22/22 05:12	7440-36-0	
Arsenic	**2.4**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7440-38-2	
Barium	**180**	ug/L	2.0	2	04/21/22 14:45	04/22/22 06:14	7440-39-3	
Beryllium	**0.22**	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:12	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:12	7440-43-9	
Chromium	**3.0**	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:12	7440-47-3	
Cobalt	**1.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7440-48-4	
Lead	**1.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7439-92-1	
Molybdenum	**14.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:12	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**329**	mg/L	10.0	1		04/22/22 15:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.6**	Std. Units	0.10	1		04/21/22 14:13		H3

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

QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

QC Batch: 672306
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008, 50314362009

METHOD BLANK: 3095382 Matrix: Water
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008, 50314362009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	04/23/22 00:35	
Calcium	ug/L	ND	1000	04/23/22 00:35	
Lithium	ug/L	ND	20.0	04/23/22 00:35	

LABORATORY CONTROL SAMPLE: 3095383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	912	91	80-120	
Calcium	ug/L	10000	9180	92	80-120	
Lithium	ug/L	1000	984	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095384 3095385

Parameter	Units	50314362009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1210	1000	1000	2140	2090	93	88	75-125	2	20	
Calcium	ug/L	7290	10000	10000	16700	16200	94	89	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1040	1020	102	101	75-125	2	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

QC Batch: 672252
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008, 50314362009

METHOD BLANK: 3095195 Matrix: Water
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008, 50314362009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	04/22/22 04:22	
Arsenic	ug/L	ND	1.0	04/22/22 04:22	
Barium	ug/L	ND	1.0	04/22/22 04:22	
Beryllium	ug/L	ND	0.20	04/22/22 04:22	
Cadmium	ug/L	ND	0.20	04/22/22 04:22	
Chromium	ug/L	ND	2.0	04/22/22 04:22	
Cobalt	ug/L	ND	1.0	04/22/22 04:22	
Lead	ug/L	ND	1.0	04/22/22 04:22	
Molybdenum	ug/L	ND	1.0	04/22/22 04:22	
Selenium	ug/L	ND	1.0	04/22/22 04:22	
Thallium	ug/L	ND	1.0	04/22/22 04:22	

LABORATORY CONTROL SAMPLE: 3095196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.1	105	80-120	
Arsenic	ug/L	40	38.7	97	80-120	
Barium	ug/L	40	39.3	98	80-120	
Beryllium	ug/L	40	40.7	102	80-120	
Cadmium	ug/L	40	38.4	96	80-120	
Chromium	ug/L	40	40.9	102	80-120	
Cobalt	ug/L	40	39.3	98	80-120	
Lead	ug/L	40	39.3	98	80-120	
Molybdenum	ug/L	40	38.0	95	80-120	
Selenium	ug/L	40	41.0	103	80-120	
Thallium	ug/L	40	39.8	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095197 3095198

Parameter	Units	50314362009 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	36.9	37.2	91	92	75-125	1	20	
Arsenic	ug/L	2.4	40	40	41.2	40.4	97	95	75-125	2	20	
Barium	ug/L	180	40	40	223	223	108	109	75-125	0	20	
Beryllium	ug/L	0.22	40	40	41.5	41.5	103	103	75-125	0	20	
Cadmium	ug/L	ND	40	40	38.8	39.1	97	97	75-125	1	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095197 3095198

Parameter	Units	50314362009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	3.0	40	40	43.8	43.2	102	100	75-125	1	20	
Cobalt	ug/L	1.3	40	40	38.4	38.8	93	94	75-125	1	20	
Lead	ug/L	1.7	40	40	38.6	39.4	92	94	75-125	2	20	
Molybdenum	ug/L	14.5	40	40	54.0	54.2	99	99	75-125	0	20	
Selenium	ug/L	ND	40	40	39.7	38.6	97	95	75-125	3	20	
Thallium	ug/L	ND	40	40	40.1	40.5	100	101	75-125	1	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

QC Batch: 672484 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008

METHOD BLANK: 3096513 Matrix: Water
Associated Lab Samples: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/22/22 14:47	

LABORATORY CONTROL SAMPLE: 3096514

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	279	93	80-120	

SAMPLE DUPLICATE: 3096515

Parameter	Units	50312099001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	369	374	1	10	H3

SAMPLE DUPLICATE: 3096516

Parameter	Units	50312254001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	601	593	1	10	H3

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(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

QC Batch: 672487
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314362009

METHOD BLANK: 3096523 Matrix: Water
Associated Lab Samples: 50314362009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/22/22 15:06	

LABORATORY CONTROL SAMPLE: 3096524

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

SAMPLE DUPLICATE: 3096525

Parameter	Units	50314362009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	329	341	4	10	

SAMPLE DUPLICATE: 3096526

Parameter	Units	50314438008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	132	129	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314362

QC Batch: 672347
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: 50314362001, 50314362002, 50314362003, 50314362004, 50314362005, 50314362006, 50314362007, 50314362008, 50314362009

SAMPLE DUPLICATE: 3095645

Parameter	Units	50313711001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.0	0	2	H3

SAMPLE DUPLICATE: 3095646

Parameter	Units	50314362009 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	2	H3

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

QUALIFIERS

Project: AES Petersburg April Event
Pace Project No.: 50314362

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.

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg April Event
Pace Project No.: 50314362

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50314362001	**MW-30D2**	EPA 3010	672306	EPA 6010	672647
50314362002	**MW-31D2**	EPA 3010	672306	EPA 6010	672647
50314362003	**MW-32D1**	EPA 3010	672306	EPA 6010	672647
50314362004	**MW-32D2**	EPA 3010	672306	EPA 6010	672647
50314362005	**MW-34A**	EPA 3010	672306	EPA 6010	672647
50314362006	**MW-34D1**	EPA 3010	672306	EPA 6010	672647
50314362007	**MW-34D2**	EPA 3010	672306	EPA 6010	672647
50314362008	**MW-35D1**	EPA 3010	672306	EPA 6010	672647
50314362009	**MW-35D2**	EPA 3010	672306	EPA 6010	672647
50314362001	**MW-30D2**	EPA 200.2	672252	EPA 6020	672464
50314362002	**MW-31D2**	EPA 200.2	672252	EPA 6020	672464
50314362003	**MW-32D1**	EPA 200.2	672252	EPA 6020	672464
50314362004	**MW-32D2**	EPA 200.2	672252	EPA 6020	672464
50314362005	**MW-34A**	EPA 200.2	672252	EPA 6020	672464
50314362006	**MW-34D1**	EPA 200.2	672252	EPA 6020	672464
50314362007	**MW-34D2**	EPA 200.2	672252	EPA 6020	672464
50314362008	**MW-35D1**	EPA 200.2	672252	EPA 6020	672464
50314362009	**MW-35D2**	EPA 200.2	672252	EPA 6020	672464
50314362001	**MW-30D2**	SM 2540C	672484		
50314362002	**MW-31D2**	SM 2540C	672484		
50314362003	**MW-32D1**	SM 2540C	672484		
50314362004	**MW-32D2**	SM 2540C	672484		
50314362005	**MW-34A**	SM 2540C	672484		
50314362006	**MW-34D1**	SM 2540C	672484		
50314362007	**MW-34D2**	SM 2540C	672484		
50314362008	**MW-35D1**	SM 2540C	672484		
50314362009	**MW-35D2**	SM 2540C	672487		
50314362001	**MW-30D2**	SM 4500-H+B	672347		
50314362002	**MW-31D2**	SM 4500-H+B	672347		
50314362003	**MW-32D1**	SM 4500-H+B	672347		
50314362004	**MW-32D2**	SM 4500-H+B	672347		
50314362005	**MW-34A**	SM 4500-H+B	672347		
50314362006	**MW-34D1**	SM 4500-H+B	672347		
50314362007	**MW-34D2**	SM 4500-H+B	672347		
50314362008	**MW-35D1**	SM 4500-H+B	672347		
50314362009	**MW-35D2**	SM 4500-H+B	672347		

REPORT OF LABORATORY ANALYSIS

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Pace

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.

WO# : 50314362

50314362

Section A	Section B	Section C
Required Client Information:	**Required Project Information:**	**Invoice Information:**
Company: Atlas Indianapolis	Report To: Rob Duncan	Attention: Accounts Payable
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis
Indianapolis, IN 46256		Address:
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote:
Phone: (317)649-2936 Fax:	Project Name: AES Petersburg April Sample Event	Pace Project Manager: hayden.putt@pacelabs.com,
Requested Due Date:	Project #: 170LF01166	Pace Profile #: 8427/4

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 4500	Residual Chlorine (Y/N)	
1	MW-30D1	WT				~	~		2	1		1							X	X		
2	MW-30D2	WT				4-19-22	14:30		2	1		1							X	X		001
3	MW-31D2	WT				4-19-22	15:30		2	1		1							X	X		002
4	MW-32I	WT							2	1		1							X	X		
5	MW-32D1	WT				4-19-22	12:20		2	1		1							X	X		003
6	MW-32D2	WT				4-19-22	11:53		2	1		1							X	X		004
7	MW-33I	WT							2	1		1							X	X		
8	MW-33D2	WT							2	1		1							X	X		00
9	MW-34A	WT				4-19-22	13:50		2	1		1							X	X		005
10	MW-34D1	WT				4-19-22	13:20		2	1		1							X	X		006
11	MW-34SS	WT							2	1		1							X	X		
12	MW-34D2	WT				4-19-22	12:58		2	1		1							X	X		007

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	Andy Jackowiak	4-19-22	18:40							
[redacted] Priority Processing		4/20/22	1610	JC	4/20/22	1610	2.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy Jackowiak

SIGNATURE of SAMPLER: [signature]

DATE Signed: 4-19-22

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

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:	Rob Duncan	Attention:	Accounts Payable
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	robert.duncan@atcgs.com	Purchase Order #:		Pace Quote:	
Phone:	(317)649-2936 Fax:	Project Name:	AES Petersburg April Sample Event	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:	170LF01166	Pace Profile #:	8427/4

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 4500	Residual Chlorine (Y/N)	
13	MW-35D1	WT				4-19-22	11:25		2	1		1						X	X			008
14	MW-35SS	WT							2	1		1						X	X			
15	MW-35D2 MS/MSD	WT				4-19-22	10:43		2	1		1						X	X			009
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						
24																						

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	Andy Jaskowiak	4-19-22	18:40		4/20/22	1430				
Priority Processing		4/20/22	1610	JL	4/20/22	1610	2.0	y	N	y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy Jaskowiak

SIGNATURE of SAMPLER: DATE Signed: 4-19-22

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

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: JC 1630 4/20/22

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

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

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

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

4. **Cooler Temperature:** 2.4/2.6
Temp should be above freezing to 6°C **(Initial/Corrected)**

5. **Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base pres. Have been CHECKED?: **exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.**	✓		
Short Hold Time Analysis (48 hours or less)? Analysis:		✓	**Circle: 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:

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

April 25, 2022

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

RE: Project: AES Petersburg April Event
Pace Project No.: 50314368

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 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

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

CERTIFICATIONS

Project: AES Petersburg April Event
Pace Project No.: 50314368

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 Petersburg April Event
Pace Project No.: 50314368

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50314368001	**MW-32I**	Water	04/20/22 13:05	04/20/22 16:00
50314368002	**MW-33I**	Water	04/20/22 11:30	04/20/22 16:00
50314368003	**MW-33D2**	Water	04/20/22 11:10	04/20/22 16:00
50314368004	**MW-34SS**	Water	04/20/22 12:30	04/20/22 16:00
50314368005	**MW-35SS**	Water	04/20/22 11:55	04/20/22 16:00

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: AES Petersburg April Event
Pace Project No.: 50314368

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50314368001	**MW-32I**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314368002	**MW-33I**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314368003	**MW-33D2**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314368004	**MW-34SS**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1
50314368005	**MW-35SS**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		SM 2540C	BSW	1
		SM 4500-H+B	WZE	1

PASI-I = Pace Analytical Services - Indianapolis

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

SUMMARY OF DETECTION

Project: AES Petersburg April Event
Pace Project No.: 50314368

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50314368001	**MW-32I**					
EPA 6010	Boron	951	ug/L	100	04/23/22 01:16	
EPA 6010	Calcium	194000	ug/L	1000	04/23/22 01:16	
EPA 6020	Arsenic	3.5	ug/L	1.0	04/22/22 05:41	
EPA 6020	Barium	60.0	ug/L	1.0	04/22/22 05:41	
EPA 6020	Beryllium	0.30	ug/L	0.20	04/22/22 05:41	
EPA 6020	Cadmium	0.28	ug/L	0.20	04/22/22 05:41	
EPA 6020	Chromium	6.7	ug/L	2.0	04/22/22 05:41	
EPA 6020	Cobalt	1.9	ug/L	1.0	04/22/22 05:41	
EPA 6020	Lead	4.7	ug/L	1.0	04/22/22 05:41	
EPA 6020	Molybdenum	2.1	ug/L	1.0	04/22/22 05:41	
EPA 6020	Selenium	1.2	ug/L	1.0	04/22/22 05:41	
SM 2540C	Total Dissolved Solids	1160	mg/L	20.0	04/22/22 15:07	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	04/21/22 14:57	H3
50314368002	**MW-33I**					
EPA 6010	Boron	1890	ug/L	100	04/23/22 01:18	
EPA 6010	Calcium	428000	ug/L	5000	04/23/22 01:27	
EPA 6010	Lithium	142	ug/L	20.0	04/23/22 01:18	
EPA 6020	Arsenic	8.4	ug/L	1.0	04/22/22 05:45	
EPA 6020	Barium	59.3	ug/L	1.0	04/22/22 05:45	
EPA 6020	Cobalt	1.4	ug/L	1.0	04/22/22 05:45	
EPA 6020	Molybdenum	13.6	ug/L	1.0	04/22/22 05:45	
SM 2540C	Total Dissolved Solids	2700	mg/L	40.0	04/22/22 15:07	
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	04/21/22 14:48	H3
50314368003	**MW-33D2**					
EPA 6010	Boron	1070	ug/L	100	04/23/22 01:21	
EPA 6010	Calcium	2920	ug/L	1000	04/23/22 01:21	
EPA 6020	Antimony	1.8	ug/L	1.0	04/22/22 05:49	
EPA 6020	Arsenic	1.5	ug/L	1.0	04/22/22 05:49	
EPA 6020	Barium	127	ug/L	1.0	04/22/22 05:49	
EPA 6020	Chromium	2.8	ug/L	2.0	04/22/22 05:49	
EPA 6020	Molybdenum	21.2	ug/L	1.0	04/22/22 05:49	
EPA 6020	Selenium	1.2	ug/L	1.0	04/22/22 05:49	
SM 2540C	Total Dissolved Solids	660	mg/L	10.0	04/22/22 15:08	
SM 4500-H+B	pH at 25 Degrees C	8.3	Std. Units	0.10	04/21/22 14:39	H3
50314368004	**MW-34SS**					
EPA 6010	Boron	208	ug/L	100	04/23/22 01:23	
EPA 6010	Calcium	59600	ug/L	1000	04/23/22 01:23	
EPA 6020	Arsenic	1.2	ug/L	1.0	04/22/22 05:53	
EPA 6020	Barium	263	ug/L	2.0	04/22/22 06:35	
EPA 6020	Cobalt	1.3	ug/L	1.0	04/22/22 05:53	
EPA 6020	Molybdenum	31.4	ug/L	1.0	04/22/22 05:53	
SM 2540C	Total Dissolved Solids	356	mg/L	10.0	04/22/22 15:08	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	04/21/22 14:55	H3
50314368005	**MW-35SS**					
EPA 6010	Boron	657	ug/L	100	04/23/22 01:25	

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 Petersburg April Event
Pace Project No.: 50314368

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50314368005	**MW-35SS**					
EPA 6010	Calcium	65100	ug/L	1000	04/23/22 01:25	
EPA 6010	Lithium	33.0	ug/L	20.0	04/23/22 01:25	
EPA 6020	Arsenic	2.5	ug/L	1.0	04/22/22 05:57	
EPA 6020	Barium	237	ug/L	2.0	04/22/22 06:39	
EPA 6020	Chromium	3.0	ug/L	2.0	04/22/22 05:57	
EPA 6020	Cobalt	10.5	ug/L	1.0	04/22/22 05:57	
EPA 6020	Lead	1.2	ug/L	1.0	04/22/22 05:57	
EPA 6020	Molybdenum	64.8	ug/L	1.0	04/22/22 05:57	
EPA 6020	Selenium	1.3	ug/L	1.0	04/22/22 05:57	
SM 2540C	Total Dissolved Solids	565	mg/L	10.0	04/22/22 15:08	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	04/21/22 14:50	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 Petersburg April Event
Pace Project No.: 50314368

Sample: MW-32I **Lab ID: 50314368001** Collected: 04/20/22 13:05 Received: 04/20/22 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**951**	ug/L	100	1	04/22/22 08:17	04/23/22 01:16	7440-42-8	
Calcium	**194000**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:16	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:16	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	04/21/22 14:45	04/22/22 05:41	7440-36-0	
Arsenic	**3.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7440-38-2	
Barium	**60.0**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7440-39-3	
Beryllium	**0.30**	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:41	7440-41-7	
Cadmium	**0.28**	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:41	7440-43-9	
Chromium	**6.7**	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:41	7440-47-3	
Cobalt	**1.9**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7440-48-4	
Lead	**4.7**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7439-92-1	
Molybdenum	**2.1**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7439-98-7	
Selenium	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:41	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1160**	mg/L	20.0	1		04/22/22 15:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		04/21/22 14:57		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 Petersburg April Event
Pace Project No.: 50314368

Sample: MW-33I **Lab ID: 50314368002** Collected: 04/20/22 11:30 Received: 04/20/22 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**1890**	ug/L	100	1	04/22/22 08:17	04/23/22 01:18	7440-42-8	
Calcium	**428000**	ug/L	5000	5	04/22/22 08:17	04/23/22 01:27	7440-70-2	
Lithium	**142**	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:18	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	04/21/22 14:45	04/22/22 05:45	7440-36-0	
Arsenic	**8.4**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7440-38-2	
Barium	**59.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:45	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:45	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:45	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7439-92-1	
Molybdenum	**13.6**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:45	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2700**	mg/L	40.0	1		04/22/22 15:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		04/21/22 14:48		H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314368

Sample: MW-33D2 **Lab ID: 50314368003** Collected: 04/20/22 11:10 Received: 04/20/22 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**1070**	ug/L	100	1	04/22/22 08:17	04/23/22 01:21	7440-42-8	
Calcium	**2920**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:21	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:21	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	**1.8**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7440-38-2	
Barium	**127**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:49	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:49	7440-43-9	
Chromium	**2.8**	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:49	7440-47-3	
Cobalt	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7439-92-1	
Molybdenum	**21.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7439-98-7	
Selenium	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:49	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**660**	mg/L	10.0	1		04/22/22 15:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.3**	Std. Units	0.10	1		04/21/22 14:39		H3

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(317)228-3100

ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314368

Sample: MW-34SS **Lab ID: 50314368004** Collected: 04/20/22 12:30 Received: 04/20/22 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**208**	ug/L	100	1	04/22/22 08:17	04/23/22 01:23	7440-42-8	
Calcium	**59600**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:23	7440-70-2	
Lithium	ND	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:23	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	04/21/22 14:45	04/22/22 05:53	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7440-38-2	
Barium	**263**	ug/L	2.0	2	04/21/22 14:45	04/22/22 06:35	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:53	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:53	7440-43-9	
Chromium	ND	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:53	7440-47-3	
Cobalt	**1.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7440-48-4	
Lead	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7439-92-1	
Molybdenum	**31.4**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:53	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**356**	mg/L	10.0	1		04/22/22 15:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		04/21/22 14:55		H3

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ANALYTICAL RESULTS

Project: AES Petersburg April Event
Pace Project No.: 50314368

Sample: MW-35SS **Lab ID: 50314368005** Collected: 04/20/22 11:55 Received: 04/20/22 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**657**	ug/L	100	1	04/22/22 08:17	04/23/22 01:25	7440-42-8	
Calcium	**65100**	ug/L	1000	1	04/22/22 08:17	04/23/22 01:25	7440-70-2	
Lithium	**33.0**	ug/L	20.0	1	04/22/22 08:17	04/23/22 01:25	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	04/21/22 14:45	04/22/22 05:57	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7440-38-2	
Barium	**237**	ug/L	2.0	2	04/21/22 14:45	04/22/22 06:39	7440-39-3	
Beryllium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:57	7440-41-7	
Cadmium	ND	ug/L	0.20	1	04/21/22 14:45	04/22/22 05:57	7440-43-9	
Chromium	**3.0**	ug/L	2.0	1	04/21/22 14:45	04/22/22 05:57	7440-47-3	
Cobalt	**10.5**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7440-48-4	
Lead	**1.2**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7439-92-1	
Molybdenum	**64.8**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7439-98-7	
Selenium	**1.3**	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7782-49-2	
Thallium	ND	ug/L	1.0	1	04/21/22 14:45	04/22/22 05:57	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**565**	mg/L	10.0	1		04/22/22 15:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		04/21/22 14:50		H3

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314368

QC Batch: 672306
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

METHOD BLANK: 3095382 Matrix: Water
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	04/23/22 00:35	
Calcium	ug/L	ND	1000	04/23/22 00:35	
Lithium	ug/L	ND	20.0	04/23/22 00:35	

LABORATORY CONTROL SAMPLE: 3095383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	912	91	80-120	
Calcium	ug/L	10000	9180	92	80-120	
Lithium	ug/L	1000	984	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095384 3095385

Parameter	Units	50314362009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1210	1000	1000	2140	2090	93	88	75-125	2	20	
Calcium	ug/L	7290	10000	10000	16700	16200	94	89	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1040	1020	102	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314368

QC Batch: 672252
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

METHOD BLANK: 3095195 Matrix: Water
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	04/22/22 04:22	
Arsenic	ug/L	ND	1.0	04/22/22 04:22	
Barium	ug/L	ND	1.0	04/22/22 04:22	
Beryllium	ug/L	ND	0.20	04/22/22 04:22	
Cadmium	ug/L	ND	0.20	04/22/22 04:22	
Chromium	ug/L	ND	2.0	04/22/22 04:22	
Cobalt	ug/L	ND	1.0	04/22/22 04:22	
Lead	ug/L	ND	1.0	04/22/22 04:22	
Molybdenum	ug/L	ND	1.0	04/22/22 04:22	
Selenium	ug/L	ND	1.0	04/22/22 04:22	
Thallium	ug/L	ND	1.0	04/22/22 04:22	

LABORATORY CONTROL SAMPLE: 3095196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.1	105	80-120	
Arsenic	ug/L	40	38.7	97	80-120	
Barium	ug/L	40	39.3	98	80-120	
Beryllium	ug/L	40	40.7	102	80-120	
Cadmium	ug/L	40	38.4	96	80-120	
Chromium	ug/L	40	40.9	102	80-120	
Cobalt	ug/L	40	39.3	98	80-120	
Lead	ug/L	40	39.3	98	80-120	
Molybdenum	ug/L	40	38.0	95	80-120	
Selenium	ug/L	40	41.0	103	80-120	
Thallium	ug/L	40	39.8	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095197 3095198

Parameter	Units	50314362009 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	36.9	37.2	91	92	75-125	1	20	
Arsenic	ug/L	2.4	40	40	41.2	40.4	97	95	75-125	2	20	
Barium	ug/L	180	40	40	223	223	108	109	75-125	0	20	
Beryllium	ug/L	0.22	40	40	41.5	41.5	103	103	75-125	0	20	
Cadmium	ug/L	ND	40	40	38.8	39.1	97	97	75-125	1	20	
Chromium	ug/L	3.0	40	40	43.8	43.2	102	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314368

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3095197 3095198

Parameter	Units	50314362009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	1.3	40	40	38.4	38.8	93	94	75-125	1	20	
Lead	ug/L	1.7	40	40	38.6	39.4	92	94	75-125	2	20	
Molybdenum	ug/L	14.5	40	40	54.0	54.2	99	99	75-125	0	20	
Selenium	ug/L	ND	40	40	39.7	38.6	97	95	75-125	3	20	
Thallium	ug/L	ND	40	40	40.1	40.5	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314368

QC Batch: 672487 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

METHOD BLANK: 3096523 Matrix: Water
Associated Lab Samples: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/22/22 15:06	

LABORATORY CONTROL SAMPLE: 3096524

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

SAMPLE DUPLICATE: 3096525

Parameter	Units	50314362009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	329	341	4	10	

SAMPLE DUPLICATE: 3096526

Parameter	Units	50314438008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	132	129	2	10	

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QUALITY CONTROL DATA

Project: AES Petersburg April Event
Pace Project No.: 50314368

QC Batch: 672347
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: 50314368001, 50314368002, 50314368003, 50314368004, 50314368005

SAMPLE DUPLICATE: 3095645

Parameter	Units	50313711001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.0	0	2	H3

SAMPLE DUPLICATE: 3095646

Parameter	Units	50314362009 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	2	H3

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QUALIFIERS

Project: AES Petersburg April Event
Pace Project No.: 50314368

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg April Event
Pace Project No.: 50314368

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50314368001	**MW-32I**	EPA 3010	672306	EPA 6010	672647
50314368002	**MW-33I**	EPA 3010	672306	EPA 6010	672647
50314368003	**MW-33D2**	EPA 3010	672306	EPA 6010	672647
50314368004	**MW-34SS**	EPA 3010	672306	EPA 6010	672647
50314368005	**MW-35SS**	EPA 3010	672306	EPA 6010	672647
50314368001	**MW-32I**	EPA 200.2	672252	EPA 6020	672464
50314368002	**MW-33I**	EPA 200.2	672252	EPA 6020	672464
50314368003	**MW-33D2**	EPA 200.2	672252	EPA 6020	672464
50314368004	**MW-34SS**	EPA 200.2	672252	EPA 6020	672464
50314368005	**MW-35SS**	EPA 200.2	672252	EPA 6020	672464
50314368001	**MW-32I**	SM 2540C	672487		
50314368002	**MW-33I**	SM 2540C	672487		
50314368003	**MW-33D2**	SM 2540C	672487		
50314368004	**MW-34SS**	SM 2540C	672487		
50314368005	**MW-35SS**	SM 2540C	672487		
50314368001	**MW-32I**	SM 4500-H+B	672347		
50314368002	**MW-33I**	SM 4500-H+B	672347		
50314368003	**MW-33D2**	SM 4500-H+B	672347		
50314368004	**MW-34SS**	SM 4500-H+B	672347		
50314368005	**MW-35SS**	SM 4500-H+B	672347		

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WO# : 50314368

50314368

CHAIN-OF-CUSTODY / Analytical Request Document

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

...dy constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section B Required Project Information:		Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Rob Duncan	Attention: Accounts Payable	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	
Indianapolis, IN 46256		Address:	Regulatory Agency
Email: robert.duncan@atcgs.com	Purchase Order #:	Pace Quote:	
Phone: (317)649-2936 Fax:	Project Name: AES Petersburg April Sample Event	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date:	Project #: 170LF01166	Pace Profile #: 8427/4	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: Metals, Total	TDS 2540C/pH 4500	Residual Chlorine (Y/N)	
1	MW-30D1	WT							2	1		1							X	X		
2	MW-30D2	WT							2	1		1							X	X		
3	MW-31D2	WT							2	1		1							X	X		
4	MW-32I	WT	G			4-20-22	13:05		2	1		1							X	X		001
5	MW-32D1	WT							2	1		1							X	X		
6	MW-32D2	WT							2	1		1							X	X		
7	MW-33I	WT				4-20-22	11:30		2	1		1							X	X		002
8	MW-33D2	WT				4-20-22	11:10		2	1		1							X	X		003
9	MW-34A	WT							2	1		1							X	X		
10	MW-34D1	WT							2	1		1							X	X		
11	MW-34SS	WT				4-20-22	12:30		2	1		1							X	X		004
12	MW-34D2	WT							2	1		1							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)
6010-B,Ca,Li 6020-Be,Cr,Co,As,Se,Mo,Cd,Sb,Ba,Tl,Pb	Andy Jankowiak	4-20-22	16:00		4/20/22	16:00	4.4	Y	N	Y
Priority Processing										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy Jankowiak

SIGNATURE of SAMPLER: [signature] DATE Signed: 4-20-22

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:	Rob Duncan	Attention:	Accounts Payable
Address:	7988 Centerpoint Drive	Copy To:		Company Name:	Atlas Indianapolis
	Indianapolis, IN 46256			Address:	
Email:	robert.duncan@atcgs.com	Purchase Order #:		Pace Quote:	
Phone:	(317)649-2936 Fax:	Project Name:	AES Petersburg April Sample Event	Pace Project Manager:	hayden.putt@pacelabs.com,
Requested Due Date:		Project #:	170LF01166	Pace Profile #:	8427/4

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 4500	Residual Chlorine (Y/N)	
13	MW-35D1	WT							2	1		1							X	X		
14	MW-35SS	WT				4-20-22	11:55		2	1		1							X	X			dup
15	MW-35D2	WT							2	1		1							X	X			
16																							
17																							
18																							
19																							
20																							
21																							
22																							
23																							
24																							

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	Andy Jaskowiak	4-20-22	16:00		4/20/22	1600	4.4	Y	N	Y
Priority Processing										

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:	Andy Jaskowiak					
SIGNATURE of SAMPLER:		DATE Signed: 4-20-22				

Pace Analytical®

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 4/20/22 1704

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:** 5.0 | 4.4 °C
Temp should be above freezing to 6°C **(Initial/Corrected)**

5. **Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base pres. Have been CHECKED?: **exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.** 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** 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																		1	1									SW	✓		
5																															
6																															
7																		1	1									SW	✓		
8																		1	1									SW	✓		
9																															
10																															
11																		1	1									SW	✓		
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 ____ 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																		\	\									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	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syringe Kit	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air Cassettes
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na Thiosulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	U	Summa Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziploc Bag
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL	Solid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL / OL	Non-aqueous liquid / Oil
						WP	Wipe

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.: 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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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
		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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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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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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(317)228-3100

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
QC Batch Method: SM 2320B
Analysis 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 | 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: 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 | 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: 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	

REPORT OF LABORATORY ANALYSIS

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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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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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WO# : 50315479

50315479

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical R

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

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)	
										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		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		

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		TEMP in C	Received on Ice (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 5-3-22		Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MTL 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)

1.0/1.4	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					WT	✓	✓	
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 P2R7 Geochem Only
Pace Project No.: 50315596

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 05, 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 P2R7 Geochem Only
Pace Project No.: 50315596

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 P2R7 Geochem Only
Pace Project No.: 50315596

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315596001	**MW-1**	Water	05/04/22 17:15	05/05/22 10:36
50315596002	**MW-10**	Water	05/04/22 12:50	05/05/22 10:36
50315596003	**MW-11**	Water	05/04/22 13:45	05/05/22 10:36
50315596004	**MW-12**	Water	05/04/22 15:00	05/05/22 10:36
50315596005	**MW-13**	Water	05/04/22 16:00	05/05/22 10:36

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315596001	**MW-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315596002	**MW-10**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315596003	**MW-11**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315596004	**MW-12**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	DJS	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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315596005	**MW-13**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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	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

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315596001	**MW-1**					
EPA 9056	Chloride	4.1	mg/L	0.25	05/13/22 11:58	P8
EPA 9056	Sulfate	179	mg/L	2.5	05/13/22 12:15	
EPA 6010	Magnesium	39900	ug/L	1000	05/17/22 11:51	
EPA 6010	Potassium	2070	ug/L	1000	05/17/22 11:51	
EPA 6010	Silica	20900	ug/L	450	05/17/22 11:51	N2
EPA 6010	Sodium	5380	ug/L	1000	05/17/22 11:51	
SM 2320B	Alkalinity, Total as CaCO3	313	mg/L	2.0	05/12/22 11:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	313	mg/L	2.0	05/12/22 11:04	
SM 2540C	Total Dissolved Solids	618	mg/L	10.0	05/11/22 10:20	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/13/22 13:19	H3
EPA 353.2	Nitrogen, Nitrate	4.5	mg/L	0.10	05/05/22 17:55	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/16/22 16:56	
50315596002	**MW-10**					
EPA 9056	Chloride	127	mg/L	25.0	05/13/22 16:08	P8
EPA 9056	Fluoride	0.25	mg/L	0.10	05/13/22 15:34	
EPA 9056	Sulfate	1730	mg/L	25.0	05/13/22 16:08	
EPA 6010	Aluminum	269	ug/L	200	05/17/22 11:53	
EPA 6010	Iron	32200	ug/L	100	05/17/22 11:53	
EPA 6010	Magnesium	106000	ug/L	1000	05/17/22 11:53	
EPA 6010	Manganese	2960	ug/L	10.0	05/17/22 11:53	
EPA 6010	Potassium	40700	ug/L	1000	05/17/22 11:53	
EPA 6010	Silica	27200	ug/L	450	05/17/22 11:53	N2
EPA 6010	Sodium	82200	ug/L	1000	05/17/22 11:53	
EPA 6010	Manganese, Dissolved	3010	ug/L	10.0	05/14/22 05:02	
EPA 6010	Molybdenum, Dissolved	17.0	ug/L	10.0	05/14/22 05:02	
SM 2320B	Alkalinity, Total as CaCO3	497	mg/L	2.0	05/12/22 11:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	497	mg/L	2.0	05/12/22 11:04	
SM 2540C	Total Dissolved Solids	2910	mg/L	40.0	05/11/22 13:09	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/13/22 13:23	H3
HACH 8146	Iron, Ferrous	3.9	mg/L	1.0	05/10/22 12:22	H3,N2
EPA 365.1	Phosphate as P04	1.3	mg/L	0.15	05/09/22 13:55	
SM 5310C	Total Organic Carbon	8.0	mg/L	1.0	05/12/22 19:35	
SM 5310C	Dissolved Organic Carbon	7.8	mg/L	1.0	05/16/22 17:16	
50315596003	**MW-11**					
EPA 9056	Chloride	3.6	mg/L	0.25	05/13/22 16:25	P8
EPA 9056	Sulfate	397	mg/L	25.0	05/13/22 16:59	
EPA 6010	Iron	158	ug/L	100	05/17/22 11:55	
EPA 6010	Magnesium	44500	ug/L	1000	05/17/22 11:55	
EPA 6010	Silica	18700	ug/L	450	05/17/22 11:55	N2
EPA 6010	Sodium	3850	ug/L	1000	05/17/22 11:55	
SM 2320B	Alkalinity, Total as CaCO3	151	mg/L	2.0	05/12/22 11:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	151	mg/L	2.0	05/12/22 11:04	
SM 2540C	Total Dissolved Solids	745	mg/L	10.0	05/11/22 13:09	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/13/22 13:24	H3
EPA 353.2	Nitrogen, Nitrate	1.9	mg/L	0.10	05/05/22 17:07	
EPA 365.1	Phosphate as P04	0.24	mg/L	0.15	05/09/22 13:57	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315596004	**MW-12**					
EPA 9056	Chloride	8.6	mg/L	0.25	05/13/22 17:16	P8
EPA 9056	Sulfate	14.7	mg/L	0.25	05/13/22 17:16	
EPA 6010	Iron	139	ug/L	100	05/17/22 11:57	
EPA 6010	Magnesium	20600	ug/L	1000	05/17/22 11:57	
EPA 6010	Manganese	13.6	ug/L	10.0	05/17/22 11:57	
EPA 6010	Silica	21400	ug/L	450	05/17/22 11:57	N2
EPA 6010	Sodium	3940	ug/L	1000	05/17/22 11:57	
SM 2320B	Alkalinity, Total as CaCO3	147	mg/L	2.0	05/12/22 11:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	147	mg/L	2.0	05/12/22 11:04	
SM 2540C	Total Dissolved Solids	235	mg/L	10.0	05/11/22 13:10	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/13/22 13:25	H3
EPA 353.2	Nitrogen, Nitrate	8.7	mg/L	0.50	05/05/22 18:06	
50315596005	**MW-13**					
EPA 9056	Chloride	1.9	mg/L	0.25	05/13/22 18:41	
EPA 9056	Fluoride	0.50	mg/L	0.10	05/13/22 18:41	
EPA 9056	Sulfate	1040	mg/L	25.0	05/13/22 19:15	
EPA 6010	Magnesium	14800	ug/L	1000	05/17/22 12:04	
EPA 6010	Manganese	12.6	ug/L	10.0	05/17/22 12:04	
EPA 6010	Potassium	10600	ug/L	1000	05/17/22 12:04	
EPA 6010	Silica	13800	ug/L	450	05/17/22 14:23	N2
EPA 6010	Sodium	4480	ug/L	1000	05/17/22 12:04	
EPA 6010	Molybdenum, Dissolved	40.9	ug/L	10.0	05/14/22 05:08	
SM 2320B	Alkalinity, Total as CaCO3	170	mg/L	2.0	05/12/22 11:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	170	mg/L	2.0	05/12/22 11:04	
SM 2540C	Total Dissolved Solids	1720	mg/L	20.0	05/11/22 13:10	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/13/22 13:27	H3
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	05/12/22 21:24	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	05/16/22 19:05	

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-1 **Lab ID: 50315596001** Collected: 05/04/22 17:15 Received: 05/05/22 10:36 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	**4.1**	mg/L	0.25	1		05/13/22 11:58	16887-00-6	P8
Fluoride	ND	mg/L	0.10	1		05/13/22 11:58	16984-48-8	
Sulfate	**179**	mg/L	2.5	10		05/13/22 12:15	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/12/22 14:35	05/17/22 11:51	7429-90-5	
Iron	ND	ug/L	100	1	05/12/22 14:35	05/17/22 11:51	7439-89-6	
Magnesium	**39900**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:51	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/12/22 14:35	05/17/22 11:51	7439-96-5	
Potassium	**2070**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:51	7440-09-7	
Silica	**20900**	ug/L	450	1	05/12/22 14:35	05/17/22 11:51	7631-86-9	N2
Sodium	**5380**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:51	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 05:00	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:00	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**313**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Bicarbonate (CaCO3)	**313**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**618**	mg/L	10.0	1		05/11/22 10:20		
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 13:19		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 07:49	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:22	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**4.5**	mg/L	0.10	1		05/05/22 17:55	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 17:55	14797-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-1 **Lab ID: 50315596001** Collected: 05/04/22 17:15 Received: 05/05/22 10:36 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	05/07/22 01:30	05/09/22 13:55		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/12/22 18:56	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		05/16/22 16:56		

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-10 **Lab ID: 50315596002** Collected: 05/04/22 12:50 Received: 05/05/22 10:36 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	**127**	mg/L	25.0	100		05/13/22 16:08	16887-00-6	P8
Fluoride	**0.25**	mg/L	0.10	1		05/13/22 15:34	16984-48-8	
Sulfate	**1730**	mg/L	25.0	100		05/13/22 16:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**269**	ug/L	200	1	05/12/22 14:35	05/17/22 11:53	7429-90-5	
Iron	**32200**	ug/L	100	1	05/12/22 14:35	05/17/22 11:53	7439-89-6	
Magnesium	**106000**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:53	7439-95-4	
Manganese	**2960**	ug/L	10.0	1	05/12/22 14:35	05/17/22 11:53	7439-96-5	
Potassium	**40700**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:53	7440-09-7	
Silica	**27200**	ug/L	450	1	05/12/22 14:35	05/17/22 11:53	7631-86-9	N2
Sodium	**82200**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:53	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3010**	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:02	7439-96-5	
Molybdenum, Dissolved	**17.0**	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:02	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**497**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Bicarbonate (CaCO3)	**497**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2910**	mg/L	40.0	1		05/11/22 13:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/13/22 13:23		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 07:49	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 12:22	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 16:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 16:46	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-10 **Lab ID: 50315596002** Collected: 05/04/22 12:50 Received: 05/05/22 10:36 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	**1.3**	mg/L	0.15	1	05/07/22 01:30	05/09/22 13:55		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**8.0**	mg/L	1.0	1		05/12/22 19:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**7.8**	mg/L	1.0	1		05/16/22 17:16		

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-11 **Lab ID: 50315596003** Collected: 05/04/22 13:45 Received: 05/05/22 10:36 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	**3.6**	mg/L	0.25	1		05/13/22 16:25	16887-00-6	P8
Fluoride	ND	mg/L	0.10	1		05/13/22 16:25	16984-48-8	
Sulfate	**397**	mg/L	25.0	100		05/13/22 16:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/12/22 14:35	05/17/22 11:55	7429-90-5	
Iron	**158**	ug/L	100	1	05/12/22 14:35	05/17/22 11:55	7439-89-6	
Magnesium	**44500**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:55	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/12/22 14:35	05/17/22 11:55	7439-96-5	
Potassium	ND	ug/L	1000	1	05/12/22 14:35	05/17/22 11:55	7440-09-7	
Silica	**18700**	ug/L	450	1	05/12/22 14:35	05/17/22 11:55	7631-86-9	N2
Sodium	**3850**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:55	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 05:04	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:04	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**151**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Bicarbonate (CaCO3)	**151**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**745**	mg/L	10.0	1		05/11/22 13:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		05/13/22 13:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 07:49	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:22	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		05/05/22 17:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 17:07	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-11 **Lab ID: 50315596003** Collected: 05/04/22 13:45 Received: 05/05/22 10:36 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	**0.24**	mg/L	0.15	1	05/07/22 01:30	05/09/22 13:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/12/22 20:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/16/22 18:21		

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-12 **Lab ID: 50315596004** Collected: 05/04/22 15:00 Received: 05/05/22 10:36 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	**8.6**	mg/L	0.25	1		05/13/22 17:16	16887-00-6	P8
Fluoride	ND	mg/L	0.10	1		05/13/22 17:16	16984-48-8	
Sulfate	**14.7**	mg/L	0.25	1		05/13/22 17:16	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/12/22 14:35	05/17/22 11:57	7429-90-5	
Iron	**139**	ug/L	100	1	05/12/22 14:35	05/17/22 11:57	7439-89-6	
Magnesium	**20600**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:57	7439-95-4	
Manganese	**13.6**	ug/L	10.0	1	05/12/22 14:35	05/17/22 11:57	7439-96-5	
Potassium	ND	ug/L	1000	1	05/12/22 14:35	05/17/22 11:57	7440-09-7	
Silica	**21400**	ug/L	450	1	05/12/22 14:35	05/17/22 11:57	7631-86-9	N2
Sodium	**3940**	ug/L	1000	1	05/12/22 14:35	05/17/22 11:57	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 05:06	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:06	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**147**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Bicarbonate (CaCO3)	**147**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**235**	mg/L	10.0	1		05/11/22 13:10		
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 13:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 07:49	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:22	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**8.7**	mg/L	0.50	5		05/05/22 18:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	5		05/05/22 18:06	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-12 **Lab ID: 50315596004** Collected: 05/04/22 15:00 Received: 05/05/22 10:36 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	05/07/22 01:30	05/09/22 13:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/12/22 21:05	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	ND	mg/L	1.0	1		05/16/22 18:46		

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-13 **Lab ID: 50315596005** Collected: 05/04/22 16:00 Received: 05/05/22 10:36 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	**1.9**	mg/L	0.25	1		05/13/22 18:41	16887-00-6	
Fluoride	**0.50**	mg/L	0.10	1		05/13/22 18:41	16984-48-8	
Sulfate	**1040**	mg/L	25.0	100		05/13/22 19:15	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/12/22 14:35	05/17/22 14:23	7429-90-5	
Iron	ND	ug/L	100	1	05/12/22 14:35	05/17/22 14:23	7439-89-6	
Magnesium	**14800**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:04	7439-95-4	
Manganese	**12.6**	ug/L	10.0	1	05/12/22 14:35	05/17/22 12:04	7439-96-5	
Potassium	**10600**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:04	7440-09-7	
Silica	**13800**	ug/L	450	1	05/12/22 14:35	05/17/22 14:23	7631-86-9	N2
Sodium	**4480**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:04	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 05:08	7439-96-5	
Molybdenum, Dissolved	**40.9**	ug/L	10.0	1	05/11/22 14:39	05/14/22 05:08	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**170**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Bicarbonate (CaCO3)	**170**	mg/L	2.0	1		05/12/22 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/12/22 11:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1720**	mg/L	20.0	1		05/11/22 13:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		05/13/22 13:27		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D							
	Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 07:49	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146							
	Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 12:23	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 17:51	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/05/22 17:51	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Sample: MW-13 **Lab ID: 50315596005** Collected: 05/04/22 16:00 Received: 05/05/22 10:36 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	05/07/22 01:30	05/09/22 13:58		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.6**	mg/L	1.0	1		05/12/22 21:24	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		05/16/22 19:05		

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675876 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3111984 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/13/22 11:24	
Fluoride	mg/L	ND	0.10	05/13/22 11:24	
Sulfate	mg/L	ND	0.25	05/13/22 11:24	

LABORATORY CONTROL SAMPLE: 3111985

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	97	80-120	
Sulfate	mg/L	2.5	2.3	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3111986 3111987

Parameter	Units	50315596001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.1	1.2	1.2	4.7	4.7	47	45	80-120	1	15	M0,P8
Fluoride	mg/L	ND	0.5	0.5	0.49	0.48	91	91	80-120	0	15	
Sulfate	mg/L	179	25	25	196	197	68	70	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675178
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3109039 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/17/22 10:20	
Iron	ug/L	ND	100	05/17/22 10:20	
Magnesium	ug/L	ND	1000	05/17/22 10:20	
Manganese	ug/L	ND	10.0	05/17/22 10:20	
Potassium	ug/L	ND	1000	05/17/22 10:20	
Silica	ug/L	ND	450	05/17/22 10:20	N2
Sodium	ug/L	ND	1000	05/17/22 10:20	

LABORATORY CONTROL SAMPLE: 3109040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Iron	ug/L	10000	9970	100	80-120	
Magnesium	ug/L	10000	10000	100	80-120	
Manganese	ug/L	1000	955	96	80-120	
Potassium	ug/L	10000	9910	99	80-120	
Silica	ug/L	10700	10500	98	80-120	N2
Sodium	ug/L	10000	9830	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109041 3109042

Parameter	Units	50315600002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L		10000	10000	11200	11000	107	105	75-125	2	20	
Iron	ug/L	30600	10000	10000	41700	39300	111	88	75-125	6	20	
Magnesium	ug/L	109000	10000	10000	122000	116000	131	69	75-125	5	20	P6
Manganese	ug/L	3080	1000	1000	4160	3950	108	87	75-125	5	20	
Potassium	ug/L	38300	10000	10000	51500	46600	132	83	75-125	10	20	M0
Silica	ug/L	28700	10700	10700	41100	39500	116	101	75-125	4	20	N2
Sodium	ug/L	81600	10000	10000	96900	87000	153	54	75-125	11	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

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: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3108852 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

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 P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675648 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3110939 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/12/22 11:04	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/12/22 11:04	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/12/22 11:04	

LABORATORY CONTROL SAMPLE: 3110940

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: 3110941

Parameter	Units	50315596001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	313	317	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	313	317	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3110942

Parameter	Units	50315730005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	295	301	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	294	299	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675554
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001

METHOD BLANK: 3110496 Matrix: Water
Associated Lab Samples: 50315596001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/11/22 10:09	

LABORATORY CONTROL SAMPLE: 3110497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	289	96	80-120	

SAMPLE DUPLICATE: 3110498

Parameter	Units	50315567008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1200	1160	3	10	

SAMPLE DUPLICATE: 3110499

Parameter	Units	50315567009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1350	1340	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675555 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3110500 Matrix: Water
Associated Lab Samples: 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/11/22 13:08	

LABORATORY CONTROL SAMPLE: 3110501

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	276	92	80-120	

SAMPLE DUPLICATE: 3110502

Parameter	Units	50315596002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2910	2900	0	10	

SAMPLE DUPLICATE: 3110503

Parameter	Units	50315596003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	745	745	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 676145
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: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

SAMPLE DUPLICATE: 3113288

Parameter	Units	50315596001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	1	2	H3

SAMPLE DUPLICATE: 3113289

Parameter	Units	50315597005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 674954
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: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3108143 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/07/22 07:49	

LABORATORY CONTROL SAMPLE: 3108144

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: 3108145 3108146

Parameter	Units	50315820001 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	0.16	0.18	27	31	90-110	11	20	M3

MATRIX SPIKE SAMPLE: 3108147

Parameter	Units	50315567001 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 P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675307 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3109472 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

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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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: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

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: 50315596001

METHOD BLANK: 3105756 Matrix: Water
Associated Lab Samples: 50315596001

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 P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 674671
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: 50315596002

METHOD BLANK: 3106251 Matrix: Water
Associated Lab Samples: 50315596002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/05/22 16:02	
Nitrogen, Nitrite	mg/L	ND	0.10	05/05/22 16:02	

LABORATORY CONTROL SAMPLE: 3106252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.95	95	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106253 3106254

Parameter	Units	50315564016 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	0.97	0.97	97	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3106255

Parameter	Units	50315566008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.87	1	1.8	96	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.97	96	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 674672
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: 50315596003, 50315596004, 50315596005

METHOD BLANK: 3106256 Matrix: Water
Associated Lab Samples: 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/05/22 16:59	
Nitrogen, Nitrite	mg/L	ND	0.10	05/05/22 16:59	

LABORATORY CONTROL SAMPLE: 3106257

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	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106258 3106259

Parameter	Units	50315566010 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	0.26	1	1	1.2	1.2	91	91	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	95	95	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3106260 3106261

Parameter	Units	50315564008 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	0.87	0.87	79	79	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.91	0.92	90	90	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 674942
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: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3108102 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/09/22 13:49	

LABORATORY CONTROL SAMPLE: 3108103

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108104 3108105

Parameter	Units	50315596002 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	1.3			2.8	2.8				1		

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675016 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003

METHOD BLANK: 3108512 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/12/22 09:33	

LABORATORY CONTROL SAMPLE: 3108513

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: 3108514 3108515

Parameter	Units	50315563012 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	11.2	100	98	80-120	1	20	

MATRIX SPIKE SAMPLE: 3108516

Parameter	Units	50315596001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	10.8	101	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 675018
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596004, 50315596005

METHOD BLANK: 3108517 Matrix: Water
Associated Lab Samples: 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/12/22 20:20	

LABORATORY CONTROL SAMPLE: 3108518

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: 3108519 3108520

Parameter	Units	50315730005 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	10	10	11.8	12.1	98	101	80-120	3	20	

MATRIX SPIKE SAMPLE: 3108521

Parameter	Units	50315730008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.0	10	12.6	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

QC Batch: 676338 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

METHOD BLANK: 3114410 Matrix: Water
Associated Lab Samples: 50315596001, 50315596002, 50315596003, 50315596004, 50315596005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/16/22 09:09	

LABORATORY CONTROL SAMPLE: 3114411

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: 3114412 3114413

Parameter	Units	50315516002 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	10.6	10.4	84	82	80-120	2	20	

MATRIX SPIKE SAMPLE: 3114414

Parameter	Units	50315520001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.5	10	10.2	87	80-120	

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QUALIFIERS

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

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.
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: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315596001	**MW-1**	EPA 9056	675876		
50315596002	**MW-10**	EPA 9056	675876		
50315596003	**MW-11**	EPA 9056	675876		
50315596004	**MW-12**	EPA 9056	675876		
50315596005	**MW-13**	EPA 9056	675876		
50315596001	**MW-1**	EPA 3010	675178	EPA 6010	676605
50315596002	**MW-10**	EPA 3010	675178	EPA 6010	676605
50315596003	**MW-11**	EPA 3010	675178	EPA 6010	676605
50315596004	**MW-12**	EPA 3010	675178	EPA 6010	676605
50315596005	**MW-13**	EPA 3010	675178	EPA 6010	676605
50315596001	**MW-1**	EPA 3010	675129	EPA 6010	676239
50315596002	**MW-10**	EPA 3010	675129	EPA 6010	676239
50315596003	**MW-11**	EPA 3010	675129	EPA 6010	676239
50315596004	**MW-12**	EPA 3010	675129	EPA 6010	676239
50315596005	**MW-13**	EPA 3010	675129	EPA 6010	676239
50315596001	**MW-1**	SM 2320B	675648		
50315596002	**MW-10**	SM 2320B	675648		
50315596003	**MW-11**	SM 2320B	675648		
50315596004	**MW-12**	SM 2320B	675648		
50315596005	**MW-13**	SM 2320B	675648		
50315596001	**MW-1**	SM 2540C	675554		
50315596002	**MW-10**	SM 2540C	675555		
50315596003	**MW-11**	SM 2540C	675555		
50315596004	**MW-12**	SM 2540C	675555		
50315596005	**MW-13**	SM 2540C	675555		
50315596001	**MW-1**	SM 4500-H+B	676145		
50315596002	**MW-10**	SM 4500-H+B	676145		
50315596003	**MW-11**	SM 4500-H+B	676145		
50315596004	**MW-12**	SM 4500-H+B	676145		
50315596005	**MW-13**	SM 4500-H+B	676145		
50315596001	**MW-1**	SM 4500-S2-D	674954		
50315596002	**MW-10**	SM 4500-S2-D	674954		
50315596003	**MW-11**	SM 4500-S2-D	674954		
50315596004	**MW-12**	SM 4500-S2-D	674954		
50315596005	**MW-13**	SM 4500-S2-D	674954		
50315596001	**MW-1**	HACH 8146	675307		
50315596002	**MW-10**	HACH 8146	675307		
50315596003	**MW-11**	HACH 8146	675307		
50315596004	**MW-12**	HACH 8146	675307		
50315596005	**MW-13**	HACH 8146	675307		
50315596001	**MW-1**	EPA 353.2	674543		
50315596002	**MW-10**	EPA 353.2	674671		
50315596003	**MW-11**	EPA 353.2	674672		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R7 Geochem Only
Pace Project No.: 50315596

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315596004	**MW-12**	EPA 353.2	674672		
50315596005	**MW-13**	EPA 353.2	674672		
50315596001	**MW-1**	EPA 365.1	674942	EPA 365.1	675322
50315596002	**MW-10**	EPA 365.1	674942	EPA 365.1	675322
50315596003	**MW-11**	EPA 365.1	674942	EPA 365.1	675322
50315596004	**MW-12**	EPA 365.1	674942	EPA 365.1	675322
50315596005	**MW-13**	EPA 365.1	674942	EPA 365.1	675322
50315596001	**MW-1**	SM 5310C	675016		
50315596002	**MW-10**	SM 5310C	675016		
50315596003	**MW-11**	SM 5310C	675016		
50315596004	**MW-12**	SM 5310C	675018		
50315596005	**MW-13**	SM 5310C	675018		
50315596001	**MW-1**	SM 5310C	676338		
50315596002	**MW-10**	SM 5310C	676338		
50315596003	**MW-11**	SM 5310C	676338		
50315596004	**MW-12**	SM 5310C	676338		
50315596005	**MW-13**	SM 5310C	676338		

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CHAIN-OF-CUSTODY / Analytical Rec

The Chain-of-Custody is a LEGAL DOCUMENT. All relevar

WO# : 50315596

50315596

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 2 Report 7	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)	
1	MW-1	WT		5.4.22	1715				9	3	3	2		1				X	X	X	X	X	X	X	X	X		001
2	MW-10	WT		5.4.22	1250				9	3	3	2		1				X	X	X	X	X	X	X	X	X		002
3	MW-11	WT		5.4.22	1345				9	3	3	2		1				X	X	X	X	X	X	X	X	X		003
4	MW-12	WT		5.4.22	1500				9	3	3	2		1				X	X	X	X	X	X	X	X	X		004
5	MW-13	WT		5.4.22	1600				9	3	3	2		1				X	X	X	X	X	X	X	X	X		005
6																													
7																													
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)		5.5.22			5/5/22	7:45	
				K. Jones / Atlas	5.5.22	10:36	See Scan
** Dissolved FF 6010 (Mo, Mn)							
Alkalinity = (Total , Bicarb & Carb)							

0.9 / 0.8 / 1.4 / 1.6 / 1.3 / 2.1

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Dorner

SIGNATURE of SAMPLER:

DATE Signed: 5.5.22

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 5.5.22 10:36 KC

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):** 1.1/0.9 | 1.0/0.8 | 1.6/1.4 | 1.8/1.6
   (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
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:** NO_2 / NO_3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1135	
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: 1.5/1.3 | 2.3/2.1

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				1	2	1	1	1		1					wt	✓	✓	
2												1	1				1	2	1	1	1		1					wt			
3												1	1				1	2	1	1	1		1					wt			
4												1	1				1	2	1	1	1		1					wt			
5												1	1				1	2	1	1	1		1					wt			
6																			RJ 5.5.22											
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 P2R2 App III/IV
Pace Project No.: 50315597

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 05, 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: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

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 P2R2 App III/IV
Pace Project No.: 50315597

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315597001	**MW-1**	Water	05/04/22 17:15	05/05/22 10:36
50315597002	**MW-10**	Water	05/04/22 12:50	05/05/22 10:36
50315597003	**MW-11**	Water	05/04/22 13:45	05/05/22 10:36
50315597004	**MW-12**	Water	05/04/22 15:00	05/05/22 10:36
50315597005	**MW-13**	Water	05/04/22 16:00	05/05/22 10:36

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315597001	**MW-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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
50315597002	**MW-10**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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
50315597003	**MW-11**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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
50315597004	**MW-12**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	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
50315597005	**MW-13**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	DJS	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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SUMMARY OF DETECTION

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315597001	**MW-1**					
EPA 9056	Chloride	4.1	mg/L	0.25	05/13/22 19:32	
EPA 9056	Sulfate	179	mg/L	2.5	05/13/22 19:49	
EPA 6010	Boron	142	ug/L	100	05/17/22 14:25	
EPA 6010	Calcium	144000	ug/L	1000	05/17/22 12:06	
EPA 6020	Barium	48.0	ug/L	1.0	05/11/22 21:21	
EPA 6020	Chromium	2.2	ug/L	2.0	05/11/22 21:21	
EPA 903.1	Radium-226	-0.177 ± 0.251 (0.589) C:NA T:94%	pCi/L		06/28/22 13:29	
EPA 904.0	Radium-228	0.201 ± 0.418 (0.922) C:62% T:94%	pCi/L		06/17/22 12:49	
Total Radium Calculation	Total Radium	0.201 ± 0.669 (1.51)	pCi/L		06/29/22 13:32	
SM 2540C	Total Dissolved Solids	618	mg/L	10.0	05/11/22 13:11	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/13/22 13:28	H3
50315597002	**MW-10**					
EPA 9056	Chloride	119	mg/L	25.0	05/13/22 20:57	
EPA 9056	Fluoride	0.24	mg/L	0.10	05/13/22 20:23	
EPA 9056	Sulfate	1650	mg/L	25.0	05/13/22 20:57	
EPA 6010	Boron	27900	ug/L	100	05/17/22 14:27	
EPA 6010	Calcium	634000	ug/L	5000	05/17/22 15:01	
EPA 6010	Lithium	47.4	ug/L	20.0	05/17/22 12:09	
EPA 6020	Arsenic	78.8	ug/L	1.0	05/11/22 21:26	
EPA 6020	Barium	102	ug/L	1.0	05/11/22 21:26	
EPA 6020	Beryllium	0.94	ug/L	0.20	05/11/22 21:26	
EPA 6020	Cadmium	0.22	ug/L	0.20	05/11/22 21:26	
EPA 6020	Chromium	5.3	ug/L	2.0	05/11/22 21:26	
EPA 6020	Cobalt	3.7	ug/L	1.0	05/11/22 21:26	
EPA 6020	Lead	7.8	ug/L	1.0	05/11/22 21:26	
EPA 6020	Molybdenum	14.9	ug/L	1.0	05/11/22 21:26	
EPA 6020	Selenium	1.7	ug/L	1.0	05/11/22 21:26	
EPA 903.1	Radium-226	0.606 ± 0.305 (0.103) C:NA T:95%	pCi/L		06/28/22 13:29	
EPA 904.0	Radium-228	0.573 ± 0.421 (0.823) C:61% T:95%	pCi/L		06/17/22 12:49	
Total Radium Calculation	Total Radium	1.18 ± 0.726 (0.926)	pCi/L		06/29/22 13:32	
SM 2540C	Total Dissolved Solids	2980	mg/L	40.0	05/11/22 13:11	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/13/22 13:29	H3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315597003	**MW-11**					
EPA 9056	Chloride	3.6	mg/L	0.25	05/13/22 21:47	
EPA 9056	Sulfate	413	mg/L	25.0	05/13/22 22:22	
EPA 6010	Boron	1080	ug/L	100	05/17/22 14:30	
EPA 6010	Calcium	153000	ug/L	1000	05/17/22 12:11	
EPA 6020	Barium	30.5	ug/L	1.0	05/11/22 21:30	
EPA 6020	Molybdenum	1.0	ug/L	1.0	05/11/22 21:30	
EPA 6020	Selenium	3.8	ug/L	1.0	05/11/22 21:30	
EPA 903.1	Radium-226	0.0391 ± 0.297 (0.588) C:NA T:88%	pCi/L		06/28/22 13:51	
EPA 904.0	Radium-228	-0.123 ± 0.390 (0.931) C:62% T:88%	pCi/L		06/17/22 12:49	
Total Radium Calculation	Total Radium	0.0391 ± 0.687 (1.52)	pCi/L		06/29/22 13:32	
SM 2540C	Total Dissolved Solids	777	mg/L	10.0	05/11/22 13:12	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/13/22 13:30	H3
50315597004	**MW-12**					
EPA 9056	Chloride	8.5	mg/L	0.25	05/13/22 22:38	
EPA 9056	Sulfate	14.2	mg/L	0.25	05/13/22 22:38	
EPA 6010	Calcium	48700	ug/L	1000	05/17/22 12:13	
EPA 6020	Arsenic	1.1	ug/L	1.0	05/11/22 21:35	
EPA 6020	Barium	27.5	ug/L	1.0	05/11/22 21:35	
EPA 6020	Lead	1.1	ug/L	1.0	05/11/22 21:35	
EPA 903.1	Radium-226	-0.125 ± 0.296 (0.663) C:NA T:87%	pCi/L		06/28/22 13:51	
EPA 904.0	Radium-228	0.665 ± 0.497 (0.981) C:62% T:87%	pCi/L		06/17/22 12:48	
Total Radium Calculation	Total Radium	0.665 ± 0.793 (1.64)	pCi/L		06/29/22 13:32	
SM 2540C	Total Dissolved Solids	250	mg/L	10.0	05/11/22 13:12	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/13/22 13:31	H3
50315597005	**MW-13**					
EPA 9056	Chloride	2.4	mg/L	0.25	05/13/22 23:29	
EPA 9056	Fluoride	0.53	mg/L	0.10	05/13/22 23:29	
EPA 9056	Sulfate	1230	mg/L	25.0	05/14/22 00:03	
EPA 6010	Boron	1560	ug/L	100	05/17/22 14:34	
EPA 6010	Calcium	493000	ug/L	5000	05/17/22 15:03	
EPA 6010	Lithium	74.8	ug/L	20.0	05/17/22 12:16	
EPA 6020	Barium	22.0	ug/L	1.0	05/11/22 21:40	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315597005	**MW-13**					
EPA 6020	Molybdenum	37.8	ug/L	1.0	05/11/22 21:40	
EPA 6020	Selenium	4.6	ug/L	1.0	05/11/22 21:40	
EPA 903.1	Radium-226	0.123 ± 0.311 (0.577) C:NA T:94%	pCi/L		06/28/22 13:51	
EPA 904.0	Radium-228	0.571 ± 0.409 (0.792) C:62% T:94%	pCi/L		06/17/22 12:48	
Total Radium Calculation	Total Radium	0.694 ± 0.720 (1.37)	pCi/L		06/29/22 13:32	
SM 2540C	Total Dissolved Solids	1730	mg/L	20.0	05/11/22 13:13	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/13/22 13:33	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-1 **Lab ID: 50315597001** Collected: 05/04/22 17:15 Received: 05/05/22 10:36 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	**4.1**	mg/L	0.25	1		05/13/22 19:32	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 19:32	16984-48-8	
Sulfate	**179**	mg/L	2.5	10		05/13/22 19:49	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**142**	ug/L	100	1	05/12/22 14:35	05/17/22 14:25	7440-42-8	
Calcium	**144000**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:06	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/12/22 14:35	05/17/22 12:06	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	05/10/22 08:50	05/11/22 21:21	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7440-38-2	
Barium	**48.0**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:21	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:21	7440-43-9	
Chromium	**2.2**	ug/L	2.0	1	05/10/22 08:50	05/11/22 21:21	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7440-48-4	
Lead	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/11/22 10:39	05/11/22 16:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**618**	mg/L	10.0	1		05/11/22 13:11		
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 13:28		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-10 **Lab ID: 50315597002** Collected: 05/04/22 12:50 Received: 05/05/22 10:36 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	**119**	mg/L	25.0	100		05/13/22 20:57	16887-00-6	
Fluoride	**0.24**	mg/L	0.10	1		05/13/22 20:23	16984-48-8	
Sulfate	**1650**	mg/L	25.0	100		05/13/22 20:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**27900**	ug/L	100	1	05/12/22 14:35	05/17/22 14:27	7440-42-8	
Calcium	**634000**	ug/L	5000	5	05/12/22 14:35	05/17/22 15:01	7440-70-2	
Lithium	**47.4**	ug/L	20.0	1	05/12/22 14:35	05/17/22 12:09	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	05/10/22 08:50	05/11/22 21:26	7440-36-0	
Arsenic	**78.8**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7440-38-2	
Barium	**102**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7440-39-3	
Beryllium	**0.94**	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:26	7440-41-7	
Cadmium	**0.22**	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:26	7440-43-9	
Chromium	**5.3**	ug/L	2.0	1	05/10/22 08:50	05/11/22 21:26	7440-47-3	
Cobalt	**3.7**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7440-48-4	
Lead	**7.8**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7439-92-1	
Molybdenum	**14.9**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7439-98-7	
Selenium	**1.7**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/11/22 10:39	05/11/22 16:07	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2980**	mg/L	40.0	1		05/11/22 13:11		
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 13:29		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-11 **Lab ID: 50315597003** Collected: 05/04/22 13:45 Received: 05/05/22 10:36 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	**3.6**	mg/L	0.25	1		05/13/22 21:47	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 21:47	16984-48-8	
Sulfate	**413**	mg/L	25.0	100		05/13/22 22:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1080**	ug/L	100	1	05/12/22 14:35	05/17/22 14:30	7440-42-8	
Calcium	**153000**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:11	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/12/22 14:35	05/17/22 12:11	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	05/10/22 08:50	05/11/22 21:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7440-38-2	
Barium	**30.5**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:30	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:30	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/10/22 08:50	05/11/22 21:30	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7440-48-4	
Lead	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7439-92-1	
Molybdenum	**1.0**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7439-98-7	
Selenium	**3.8**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/11/22 10:39	05/11/22 16:09	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**777**	mg/L	10.0	1		05/11/22 13:12		
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 13:30		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-12 **Lab ID: 50315597004** Collected: 05/04/22 15:00 Received: 05/05/22 10:36 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	**8.5**	mg/L	0.25	1		05/13/22 22:38	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/13/22 22:38	16984-48-8	
Sulfate	**14.2**	mg/L	0.25	1		05/13/22 22:38	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	ND	ug/L	100	1	05/12/22 14:35	05/17/22 14:32	7440-42-8	
Calcium	**48700**	ug/L	1000	1	05/12/22 14:35	05/17/22 12:13	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/12/22 14:35	05/17/22 12:13	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	05/10/22 08:50	05/11/22 21:35	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7440-38-2	
Barium	**27.5**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:35	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:35	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/10/22 08:50	05/11/22 21:35	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7440-48-4	
Lead	**1.1**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7439-92-1	
Molybdenum	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/11/22 10:39	05/11/22 16:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**250**	mg/L	10.0	1		05/11/22 13:12		
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 13:31		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-13 **Lab ID: 50315597005** Collected: 05/04/22 16:00 Received: 05/05/22 10:36 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	**2.4**	mg/L	0.25	1		05/13/22 23:29	16887-00-6	
Fluoride	**0.53**	mg/L	0.10	1		05/13/22 23:29	16984-48-8	
Sulfate	**1230**	mg/L	25.0	100		05/14/22 00:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1560**	ug/L	100	1	05/12/22 14:35	05/17/22 14:34	7440-42-8	
Calcium	**493000**	ug/L	5000	5	05/12/22 14:35	05/17/22 15:03	7440-70-2	
Lithium	**74.8**	ug/L	20.0	1	05/12/22 14:35	05/17/22 12:16	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	05/10/22 08:50	05/11/22 21:40	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7440-38-2	
Barium	**22.0**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:40	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/10/22 08:50	05/11/22 21:40	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/10/22 08:50	05/11/22 21:40	7440-47-3	
Cobalt	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7440-48-4	
Lead	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7439-92-1	
Molybdenum	**37.8**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7439-98-7	
Selenium	**4.6**	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/10/22 08:50	05/11/22 21:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	0.20	1	05/11/22 10:39	05/11/22 16:14	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1730**	mg/L	20.0	1		05/11/22 13:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		05/13/22 13:33		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 675876 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 3111984 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/13/22 11:24	
Fluoride	mg/L	ND	0.10	05/13/22 11:24	
Sulfate	mg/L	ND	0.25	05/13/22 11:24	

LABORATORY CONTROL SAMPLE: 3111985

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	97	80-120	
Sulfate	mg/L	2.5	2.3	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3111986 3111987

Parameter	Units	50315596001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.1	1.2	1.2	4.7	4.7	47	45	80-120	1	15	M0,P8
Fluoride	mg/L	ND	0.5	0.5	0.49	0.48	91	91	80-120	0	15	
Sulfate	mg/L	179	25	25	196	197	68	70	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 675040 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 3108564 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/11/22 15:10	

LABORATORY CONTROL SAMPLE: 3108565

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108566 3108567

Parameter	Units	50315719001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.1	5.1	101	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 675178
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 3109039 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/17/22 10:20	
Calcium	ug/L	ND	1000	05/17/22 10:20	
Lithium	ug/L	ND	20.0	05/17/22 10:20	

LABORATORY CONTROL SAMPLE: 3109040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	996	100	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Lithium	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109041 3109042

Parameter	Units	50315600002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	30000	1000	1000	32200	30200	214	18	75-125	6	20	P6
Calcium	ug/L	634000	10000	10000	668000	630000	340	-35	75-125	6	20	P6
Lithium	ug/L	41.8	1000	1000	1220	1130	117	109	75-125	8	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 675266
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 3109355 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/11/22 14:13	
Arsenic	ug/L	ND	1.0	05/11/22 14:13	
Barium	ug/L	ND	1.0	05/11/22 14:13	
Beryllium	ug/L	ND	0.20	05/11/22 14:13	
Cadmium	ug/L	ND	0.20	05/11/22 14:13	
Chromium	ug/L	ND	2.0	05/11/22 14:13	
Cobalt	ug/L	ND	1.0	05/11/22 14:13	
Lead	ug/L	ND	1.0	05/11/22 14:13	
Molybdenum	ug/L	ND	1.0	05/11/22 14:13	
Selenium	ug/L	ND	1.0	05/11/22 14:13	
Thallium	ug/L	ND	1.0	05/11/22 14:13	

LABORATORY CONTROL SAMPLE: 3109356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.3	103	80-120	
Arsenic	ug/L	40	39.3	98	80-120	
Barium	ug/L	40	40.2	101	80-120	
Beryllium	ug/L	40	39.0	98	80-120	
Cadmium	ug/L	40	38.6	96	80-120	
Chromium	ug/L	40	40.5	101	80-120	
Cobalt	ug/L	40	39.4	98	80-120	
Lead	ug/L	40	40.4	101	80-120	
Molybdenum	ug/L	40	37.7	94	80-120	
Selenium	ug/L	40	40.3	101	80-120	
Thallium	ug/L	40	40.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109357 3109358

Parameter	Units	50315573003 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	41.5	44.2	104	110	75-125	6	20	
Arsenic	ug/L	<1.0	40	40	38.3	39.0	94	96	75-125	2	20	
Barium	ug/L	11.8	40	40	52.1	54.8	101	107	75-125	5	20	
Beryllium	ug/L	<0.20	40	40	42.0	44.3	105	111	75-125	5	20	
Cadmium	ug/L	<0.20	40	40	36.7	39.1	92	98	75-125	6	20	
Chromium	ug/L	<2.0	40	40	37.6	38.3	94	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109357 3109358

Parameter	Units	50315573003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	<1.0	40	40	36.9	39.4	91	98	75-125	7	20	
Lead	ug/L	<1.0	40	40	39.6	42.4	99	105	75-125	7	20	
Molybdenum	ug/L	<1.0	40	40	37.2	39.6	92	98	75-125	6	20	
Selenium	ug/L	<1.0	40	40	39.8	39.6	98	98	75-125	0	20	
Thallium	ug/L	<1.0	40	40	40.0	42.3	100	106	75-125	6	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: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 675555 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 3110500 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/11/22 13:08	

LABORATORY CONTROL SAMPLE: 3110501

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	276	92	80-120	

SAMPLE DUPLICATE: 3110502

Parameter	Units	50315596002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2910	2900	0	10	

SAMPLE DUPLICATE: 3110503

Parameter	Units	50315596003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	745	745	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 676145
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: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

SAMPLE DUPLICATE: 3113288

Parameter	Units	50315596001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	1	2	H3

SAMPLE DUPLICATE: 3113289

Parameter	Units	50315597005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-1 **Lab ID: 50315597001** Collected: 05/04/22 17:15 Received: 05/05/22 10:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.177 ± 0.251 (0.589) C:NA T:94%**	pCi/L	06/28/22 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.201 ± 0.418 (0.922) C:62% T:94%**	pCi/L	06/17/22 12:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.201 ± 0.669 (1.51)**	pCi/L	06/29/22 13:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-10 **Lab ID: 50315597002** Collected: 05/04/22 12:50 Received: 05/05/22 10:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.606 ± 0.305 (0.103) C:NA T:95%**	pCi/L	06/28/22 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.573 ± 0.421 (0.823) C:61% T:95%**	pCi/L	06/17/22 12:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.18 ± 0.726 (0.926)**	pCi/L	06/29/22 13:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-11 **Lab ID: 50315597003** Collected: 05/04/22 13:45 Received: 05/05/22 10:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0391 ± 0.297 (0.588) C:NA T:88%**	pCi/L	06/28/22 13:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.123 ± 0.390 (0.931) C:62% T:88%**	pCi/L	06/17/22 12:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0391 ± 0.687 (1.52)**	pCi/L	06/29/22 13:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-12 **Lab ID: 50315597004** Collected: 05/04/22 15:00 Received: 05/05/22 10:36 Matrix: Water
PWS: Site 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 ± 0.296 (0.663) C:NA T:87%**	pCi/L	06/28/22 13:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.665 ± 0.497 (0.981) C:62% T:87%**	pCi/L	06/17/22 12:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.665 ± 0.793 (1.64)**	pCi/L	06/29/22 13:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Sample: MW-13 **Lab ID: 50315597005** Collected: 05/04/22 16:00 Received: 05/05/22 10:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.123 ± 0.311 (0.577) C:NA T:94%**	pCi/L	06/28/22 13:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.571 ± 0.409 (0.792) C:62% T:94%**	pCi/L	06/17/22 12:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.694 ± 0.720 (1.37)**	pCi/L	06/29/22 13:32	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 507518 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: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 2459153 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.106 ± 0.209 (0.501) C:NA T:95%	pCi/L	06/28/22 13:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

QC Batch: 507520
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: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

METHOD BLANK: 2459154 Matrix: Water
Associated Lab Samples: 50315597001, 50315597002, 50315597003, 50315597004, 50315597005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.766 ± 0.422 (0.753) C:61% T:95%	pCi/L	06/17/22 12:52	

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QUALIFIERS

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

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.
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: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315597001	**MW-1**	EPA 9056	675876		
50315597002	**MW-10**	EPA 9056	675876		
50315597003	**MW-11**	EPA 9056	675876		
50315597004	**MW-12**	EPA 9056	675876		
50315597005	**MW-13**	EPA 9056	675876		
50315597001	**MW-1**	EPA 3010	675178	EPA 6010	676605
50315597002	**MW-10**	EPA 3010	675178	EPA 6010	676605
50315597003	**MW-11**	EPA 3010	675178	EPA 6010	676605
50315597004	**MW-12**	EPA 3010	675178	EPA 6010	676605
50315597005	**MW-13**	EPA 3010	675178	EPA 6010	676605
50315597001	**MW-1**	EPA 200.2	675266	EPA 6020	675436
50315597002	**MW-10**	EPA 200.2	675266	EPA 6020	675436
50315597003	**MW-11**	EPA 200.2	675266	EPA 6020	675436
50315597004	**MW-12**	EPA 200.2	675266	EPA 6020	675436
50315597005	**MW-13**	EPA 200.2	675266	EPA 6020	675436
50315597001	**MW-1**	EPA 7470	675040	EPA 7470	675667
50315597002	**MW-10**	EPA 7470	675040	EPA 7470	675667
50315597003	**MW-11**	EPA 7470	675040	EPA 7470	675667
50315597004	**MW-12**	EPA 7470	675040	EPA 7470	675667
50315597005	**MW-13**	EPA 7470	675040	EPA 7470	675667
50315597001	**MW-1**	EPA 903.1	507518		
50315597002	**MW-10**	EPA 903.1	507518		
50315597003	**MW-11**	EPA 903.1	507518		
50315597004	**MW-12**	EPA 903.1	507518		
50315597005	**MW-13**	EPA 903.1	507518		
50315597001	**MW-1**	EPA 904.0	507520		
50315597002	**MW-10**	EPA 904.0	507520		
50315597003	**MW-11**	EPA 904.0	507520		
50315597004	**MW-12**	EPA 904.0	507520		
50315597005	**MW-13**	EPA 904.0	507520		
50315597001	**MW-1**	Total Radium Calculation	515245		
50315597002	**MW-10**	Total Radium Calculation	515245		
50315597003	**MW-11**	Total Radium Calculation	515245		
50315597004	**MW-12**	Total Radium Calculation	515245		
50315597005	**MW-13**	Total Radium Calculation	515245		
50315597001	**MW-1**	SM 2540C	675555		
50315597002	**MW-10**	SM 2540C	675555		
50315597003	**MW-11**	SM 2540C	675555		
50315597004	**MW-12**	SM 2540C	675555		
50315597005	**MW-13**	SM 2540C	675555		
50315597001	**MW-1**	SM 4500-H+B	676145		
50315597002	**MW-10**	SM 4500-H+B	676145		
50315597003	**MW-11**	SM 4500-H+B	676145		
50315597004	**MW-12**	SM 4500-H+B	676145		
50315597005	**MW-13**	SM 4500-H+B	676145		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R2 App III/IV
Pace Project No.: 50315597

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

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CHAIN-OF-CUSTODY / Analytical Requ

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO# : 50315597

50315597

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 2 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	MW-1	WT		5.4.22	1715				5	2		3						X	X	X		X	X			001
2	MW-10	WT		5.4.22	1250				5	2		3						X	X	X		X	X			002
3	MW-11	WT		5.4.22	1345				5	2		3						X	X	X		X	X			003
4	MW-12	WT		5.4.22	1500				5	2		3						X	X	X		X	X			004
5	MW-13	WT		5.4.22	1600				5	2		3						X	X	X		X	X			005
6																										
7																										
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			5/5/22	7:45am	
6020 (Be, Ba, Cr, Co, As, Se, Pb, Mo, Cd, Tl, Sb): 7470 Hg				K. Jones / Pace	5.5.22	10:36	Y Y Y

0.9 / 0.8 / 1.4 / 1.6 / 1.3 / 2.1

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Doerner

SIGNATURE of SAMPLER: [signature] DATE Signed: 5.5.22

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

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 5.5.22 10:36 KG

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):** 1.1/0.9 | 1.0/0.8 | 1.6/1.4 | 1.8/1.6

(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
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:		✓
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: —	
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: 1.5/1.3 | 2.3/2.1

MW-11 & MW-12 missing collection times on containers / 050522 KG

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		2	1									wt	✓		
2																2		2	1									ws			
3																2		2	1									wt			
4																2		2	1									wt			
5																2		2	1									wt			
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 Profile 2 Report 3
Pace Project No.: 50315807

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 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
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 3
Pace Project No.: 50315807

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 3
Pace Project No.: 50315807

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50315807001	**MW-14**	Water	05/05/22 09:05	05/06/22 11:05
50315807002	**MW-15**	Water	05/05/22 09:55	05/06/22 11:05
50315807003	**MW-16**	Water	05/05/22 11:00	05/06/22 11:05
50315807004	**DUP 3**	Water	05/05/22 09:55	05/06/22 11:05
50315807005	**FIELD BLANK 3**	Water	05/05/22 08:50	05/06/22 11:05

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50315807001	**MW-14**	EPA 9056	BK1	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	MTM	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
		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
50315807002	**MW-15**	EPA 9056	BK1	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	MTM	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
		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
50315807003	**MW-16**	EPA 9056	BK1	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	MTM	2	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 903.1	SLC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

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	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	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
		SM 5310C	ZM	1	PASI-I
50315807004	**DUP 3**	EPA 9056	BK1	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	MTM	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
		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
50315807005	**FIELD BLANK 3**	EPA 9056	BK1	3	PASI-I
		EPA 6010	DJS	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	BSW	1	PASI-I
		SM 4500-H+B	TKG	1	PASI-I
		SM 4500-S2-D	SWJ	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315807001	**MW-14**					
EPA 9056	Chloride	9.0	mg/L	0.25	05/20/22 07:17	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/20/22 07:17	
EPA 9056	Sulfate	238	mg/L	2.5	05/20/22 07:35	
EPA 6010	Barium	103	ug/L	10.0	05/18/22 12:47	
EPA 6010	Boron	529	ug/L	100	05/18/22 12:47	
EPA 6010	Calcium	173000	ug/L	1000	05/18/22 12:47	
EPA 6010	Iron	13900	ug/L	100	05/18/22 12:47	
EPA 6010	Magnesium	36400	ug/L	1000	05/18/22 12:47	
EPA 6010	Manganese	2110	ug/L	10.0	05/18/22 12:47	
EPA 6010	Potassium	1070	ug/L	1000	05/18/22 12:47	
EPA 6010	Silica	15100	ug/L	450	05/18/22 12:47	N2
EPA 6010	Sodium	15800	ug/L	1000	05/18/22 12:47	
EPA 6010	Manganese, Dissolved	2260	ug/L	10.0	05/19/22 14:52	
EPA 6020	Arsenic	15.2	ug/L	1.0	05/13/22 03:24	
EPA 6020	Cobalt	1.1	ug/L	1.0	05/13/22 03:24	
EPA 903.1	Radium-226	0.367 ± 0.520 (0.881) C:NA T:96%	pCi/L		06/10/22 13:06	
EPA 904.0	Radium-228	0.875 ± 0.449 (0.775) C:68% T:84%	pCi/L		06/04/22 15:09	
Total Radium Calculation	Total Radium	1.24 ± 0.969 (1.66)	pCi/L		06/13/22 14:57	
SM 2320B	Alkalinity, Total as CaCO3	96.0	mg/L	2.0	05/16/22 18:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	96.0	mg/L	2.0	05/16/22 18:42	
SM 2540C	Total Dissolved Solids	743	mg/L	10.0	05/12/22 15:21	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/14/22 15:32	H3
HACH 8146	Iron, Ferrous	0.67	mg/L	0.20	05/10/22 14:46	H3,N2
EPA 353.2	Nitrogen, Nitrate	0.22	mg/L	0.10	05/06/22 17:06	
EPA 365.1	Phosphate as P04	5.5	mg/L	0.30	05/13/22 15:29	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	05/13/22 23:01	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	05/17/22 14:28	
50315807002	**MW-15**					
EPA 9056	Chloride	73.3	mg/L	2.5	05/20/22 09:07	
EPA 9056	Fluoride	0.13	mg/L	0.10	05/20/22 08:49	
EPA 9056	Sulfate	765	mg/L	25.0	05/20/22 09:26	
EPA 6010	Barium	94.8	ug/L	10.0	05/18/22 12:49	
EPA 6010	Boron	1200	ug/L	100	05/18/22 12:49	
EPA 6010	Calcium	257000	ug/L	2000	05/18/22 13:45	
EPA 6010	Iron	2220	ug/L	100	05/18/22 12:49	
EPA 6010	Lithium	626	ug/L	20.0	05/18/22 12:49	
EPA 6010	Magnesium	42000	ug/L	1000	05/18/22 12:49	
EPA 6010	Manganese	424	ug/L	10.0	05/18/22 12:49	
EPA 6010	Molybdenum	67.4	ug/L	10.0	05/18/22 12:49	
EPA 6010	Potassium	49300	ug/L	1000	05/18/22 12:49	

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: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315807002	**MW-15**					
EPA 6010	Silica	18700	ug/L	450	05/18/22 12:49	N2
EPA 6010	Sodium	67100	ug/L	1000	05/18/22 12:49	
EPA 6010	Manganese, Dissolved	452	ug/L	10.0	05/19/22 14:58	
EPA 6010	Molybdenum, Dissolved	77.6	ug/L	10.0	05/19/22 14:58	
EPA 903.1	Radium-226	0.409 ± 0.623 (1.07) C:NA T:93%	pCi/L		06/10/22 13:06	
EPA 904.0	Radium-228	0.842 ± 0.418 (0.715) C:68% T:93%	pCi/L		06/04/22 15:09	
Total Radium Calculation	Total Radium	1.25 ± 1.04 (1.79)	pCi/L		06/13/22 14:57	
SM 2320B	Alkalinity, Total as CaCO3	377	mg/L	2.0	05/16/22 18:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	377	mg/L	2.0	05/16/22 18:42	
SM 2540C	Total Dissolved Solids	1360	mg/L	20.0	05/12/22 15:24	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/14/22 15:33	H3
HACH 8146	Iron, Ferrous	0.96	mg/L	0.20	05/10/22 14:47	H3,N2
EPA 365.1	Phosphate as P04	0.30	mg/L	0.15	05/13/22 15:00	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/13/22 23:11	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	05/17/22 15:02	
50315807003	**MW-16**					
EPA 9056	Chloride	77.2	mg/L	2.5	05/20/22 10:03	
EPA 9056	Fluoride	0.13	mg/L	0.10	05/20/22 09:44	
EPA 9056	Sulfate	1180	mg/L	25.0	05/20/22 10:21	
EPA 6010	Barium	60.7	ug/L	10.0	05/18/22 12:51	
EPA 6010	Boron	2780	ug/L	100	05/18/22 12:51	
EPA 6010	Calcium	351000	ug/L	3000	05/18/22 13:47	
EPA 6010	Iron	11800	ug/L	100	05/18/22 12:51	
EPA 6010	Lithium	1780	ug/L	20.0	05/18/22 12:51	
EPA 6010	Magnesium	23800	ug/L	1000	05/18/22 12:51	
EPA 6010	Manganese	3490	ug/L	10.0	05/18/22 12:51	
EPA 6010	Molybdenum	387	ug/L	10.0	05/18/22 12:51	
EPA 6010	Potassium	211000	ug/L	3000	05/18/22 13:47	
EPA 6010	Silica	10700	ug/L	450	05/18/22 12:51	N2
EPA 6010	Sodium	124000	ug/L	1000	05/18/22 12:51	
EPA 6010	Manganese, Dissolved	3310	ug/L	10.0	05/19/22 15:01	
EPA 6010	Molybdenum, Dissolved	342	ug/L	10.0	05/19/22 15:01	
EPA 6020	Arsenic	9.3	ug/L	1.0	05/13/22 03:43	
EPA 903.1	Radium-226	0.362 ± 0.620 (1.09) C:NA T:93%	pCi/L		06/10/22 13:06	
EPA 904.0	Radium-228	1.32 ± 0.492 (0.711) C:68% T:89%	pCi/L		06/04/22 15:09	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315807003	**MW-16**					
Total Radium Calculation	Total Radium	1.68 ± 1.11 (1.80)	pCi/L		06/13/22 14:57	
SM 2320B	Alkalinity, Total as CaCO3	380	mg/L	2.0	05/16/22 18:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	380	mg/L	2.0	05/16/22 18:42	
SM 2540C	Total Dissolved Solids	2020	mg/L	40.0	05/12/22 15:24	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/14/22 16:11	H3
EPA 365.1	Phosphate as P04	1.6	mg/L	0.15	05/13/22 15:03	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/13/22 23:22	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	05/17/22 15:13	
50315807004	**DUP 3**					
EPA 9056	Chloride	77.1	mg/L	2.5	05/20/22 10:58	
EPA 9056	Fluoride	0.12	mg/L	0.10	05/20/22 10:39	
EPA 9056	Sulfate	807	mg/L	25.0	05/20/22 11:16	
EPA 6010	Barium	88.8	ug/L	10.0	05/18/22 12:53	
EPA 6010	Boron	1310	ug/L	100	05/18/22 12:53	
EPA 6010	Calcium	260000	ug/L	2000	05/18/22 13:50	
EPA 6010	Iron	2180	ug/L	100	05/18/22 12:53	
EPA 6010	Lithium	715	ug/L	20.0	05/18/22 12:53	
EPA 6010	Magnesium	40800	ug/L	1000	05/18/22 12:53	
EPA 6010	Manganese	453	ug/L	10.0	05/18/22 12:53	
EPA 6010	Molybdenum	76.9	ug/L	10.0	05/18/22 12:53	
EPA 6010	Potassium	55600	ug/L	1000	05/18/22 12:53	
EPA 6010	Silica	17500	ug/L	450	05/18/22 12:53	N2
EPA 6010	Sodium	71800	ug/L	1000	05/18/22 12:53	
EPA 6010	Manganese, Dissolved	439	ug/L	10.0	05/19/22 15:03	
EPA 6010	Molybdenum, Dissolved	77.1	ug/L	10.0	05/19/22 15:03	
EPA 903.1	Radium-226	0.441 ± 0.613 (1.04) C:NA T:92%	pCi/L		06/10/22 13:23	
EPA 904.0	Radium-228	1.61 ± 0.578 (0.841) C:67% T:87%	pCi/L		06/04/22 15:10	
Total Radium Calculation	Total Radium	2.05 ± 1.19 (1.88)	pCi/L		06/13/22 14:57	
SM 2320B	Alkalinity, Total as CaCO3	226	mg/L	2.0	05/16/22 18:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	226	mg/L	2.0	05/16/22 18:42	
SM 2540C	Total Dissolved Solids	1410	mg/L	20.0	05/12/22 15:25	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/14/22 16:12	H3
HACH 8146	Iron, Ferrous	0.95	mg/L	0.20	05/10/22 14:48	H3,N2
EPA 365.1	Phosphate as P04	0.29	mg/L	0.15	05/13/22 15:04	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	05/13/22 23:33	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	05/17/22 15:44	
50315807005	**FIELD BLANK 3**					
EPA 9056	Sulfate	0.44	mg/L	0.25	05/20/22 07:02	

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SUMMARY OF DETECTION

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50315807005	**FIELD BLANK 3**					
EPA 903.1	Radium-226	0.141 ± 0.676 (1.28) C:NA T:96%	pCi/L		06/10/22 13:23	
EPA 904.0	Radium-228	0.646 ± 0.382 (0.686) C:71% T:85%	pCi/L		06/04/22 15:10	
Total Radium Calculation	Total Radium	0.787 ± 1.06 (1.97)	pCi/L		06/13/22 14:57	
SM 2320B	Alkalinity, Total as CaCO3	6.1	mg/L	2.0	05/16/22 18:42	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	6.1	mg/L	2.0	05/16/22 18:42	
SM 4500-H+B	pH at 25 Degrees C	5.9	Std. Units	0.10	05/14/22 16:17	H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-14 **Lab ID: 50315807001** Collected: 05/05/22 09:05 Received: 05/06/22 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	**9.0**	mg/L	0.25	1		05/20/22 07:17	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		05/20/22 07:17	16984-48-8	
Sulfate	**238**	mg/L	2.5	10		05/20/22 07:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/13/22 14:19	05/18/22 12:47	7429-90-5	
Barium	**103**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:47	7440-39-3	
Boron	**529**	ug/L	100	1	05/13/22 14:19	05/18/22 12:47	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/13/22 14:19	05/18/22 12:47	7440-43-9	
Calcium	**173000**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:47	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:47	7440-47-3	
Iron	**13900**	ug/L	100	1	05/13/22 14:19	05/18/22 12:47	7439-89-6	
Lead	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:47	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/13/22 14:19	05/18/22 12:47	7439-93-2	
Magnesium	**36400**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:47	7439-95-4	
Manganese	**2110**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:47	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:47	7439-98-7	
Potassium	**1070**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:47	7440-09-7	
Silica	**15100**	ug/L	450	1	05/13/22 14:19	05/18/22 12:47	7631-86-9	N2
Sodium	**15800**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:47	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**2260**	ug/L	10.0	1	05/14/22 15:01	05/19/22 14:52	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	1	05/14/22 15:01	05/19/22 14:52	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:24	7440-36-0	
Arsenic	**15.2**	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:24	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/11/22 15:30	05/13/22 03:24	7440-41-7	
Cobalt	**1.1**	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:24	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:24	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:24	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**96.0**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Bicarbonate (CaCO3)	**96.0**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/16/22 18:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**743**	mg/L	10.0	1		05/12/22 15:21		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-14 **Lab ID: 50315807001** Collected: 05/05/22 09:05 Received: 05/06/22 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	**7.4**	Std. Units	0.10	1		05/14/22 15:32		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 09:11	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.67**	mg/L	0.20	1		05/10/22 14:46	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, Nitrate	**0.22**	mg/L	0.10	1		05/06/22 17:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/06/22 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	**5.5**	mg/L	0.30	2	05/10/22 12:30	05/13/22 15:29		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.1**	mg/L	1.0	1		05/13/22 23:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.4**	mg/L	1.0	1		05/17/22 14:28		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-15 **Lab ID: 50315807002** Collected: 05/05/22 09:55 Received: 05/06/22 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	**73.3**	mg/L	2.5	10		05/20/22 09:07	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		05/20/22 08:49	16984-48-8	
Sulfate	**765**	mg/L	25.0	100		05/20/22 09:26	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/13/22 14:19	05/18/22 12:49	7429-90-5	
Barium	**94.8**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:49	7440-39-3	
Boron	**1200**	ug/L	100	1	05/13/22 14:19	05/18/22 12:49	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/13/22 14:19	05/18/22 12:49	7440-43-9	
Calcium	**257000**	ug/L	2000	2	05/13/22 14:19	05/18/22 13:45	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:49	7440-47-3	
Iron	**2220**	ug/L	100	1	05/13/22 14:19	05/18/22 12:49	7439-89-6	
Lead	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:49	7439-92-1	
Lithium	**626**	ug/L	20.0	1	05/13/22 14:19	05/18/22 12:49	7439-93-2	
Magnesium	**42000**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:49	7439-95-4	
Manganese	**424**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:49	7439-96-5	
Molybdenum	**67.4**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:49	7439-98-7	
Potassium	**49300**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:49	7440-09-7	
Silica	**18700**	ug/L	450	1	05/13/22 14:19	05/18/22 12:49	7631-86-9	N2
Sodium	**67100**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:49	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**452**	ug/L	10.0	1	05/14/22 15:01	05/19/22 14:58	7439-96-5	
Molybdenum, Dissolved	**77.6**	ug/L	10.0	1	05/14/22 15:01	05/19/22 14:58	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:29	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:29	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/11/22 15:30	05/13/22 03:29	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:29	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:29	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:29	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**377**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Bicarbonate (CaCO3)	**377**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/16/22 18:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1360**	mg/L	20.0	1		05/12/22 15:24		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-15 **Lab ID: 50315807002** Collected: 05/05/22 09:55 Received: 05/06/22 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		05/14/22 15:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 09:11	18496-25-8	P4
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.96**	mg/L	0.20	1		05/10/22 14:47	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		05/06/22 17:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/06/22 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	**0.30**	mg/L	0.15	1	05/10/22 12:30	05/13/22 15:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		05/13/22 23:11	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.4**	mg/L	1.0	1		05/17/22 15:02		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-16 **Lab ID: 50315807003** Collected: 05/05/22 11:00 Received: 05/06/22 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	**77.2**	mg/L	2.5	10		05/20/22 10:03	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		05/20/22 09:44	16984-48-8	
Sulfate	**1180**	mg/L	25.0	100		05/20/22 10:21	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/13/22 14:19	05/18/22 12:51	7429-90-5	
Barium	**60.7**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:51	7440-39-3	
Boron	**2780**	ug/L	100	1	05/13/22 14:19	05/18/22 12:51	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/13/22 14:19	05/18/22 12:51	7440-43-9	
Calcium	**351000**	ug/L	3000	3	05/13/22 14:19	05/18/22 13:47	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:51	7440-47-3	
Iron	**11800**	ug/L	100	1	05/13/22 14:19	05/18/22 12:51	7439-89-6	
Lead	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:51	7439-92-1	
Lithium	**1780**	ug/L	20.0	1	05/13/22 14:19	05/18/22 12:51	7439-93-2	
Magnesium	**23800**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:51	7439-95-4	
Manganese	**3490**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:51	7439-96-5	
Molybdenum	**387**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:51	7439-98-7	
Potassium	**211000**	ug/L	3000	3	05/13/22 14:19	05/18/22 13:47	7440-09-7	
Silica	**10700**	ug/L	450	1	05/13/22 14:19	05/18/22 12:51	7631-86-9	N2
Sodium	**124000**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:51	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**3310**	ug/L	10.0	1	05/14/22 15:01	05/19/22 15:01	7439-96-5	
Molybdenum, Dissolved	**342**	ug/L	10.0	1	05/14/22 15:01	05/19/22 15:01	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	05/11/22 15:30	05/13/22 03:43	7440-36-0	
Arsenic	**9.3**	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:43	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/11/22 15:30	05/13/22 03:43	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:43	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:43	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:43	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**380**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Bicarbonate (CaCO3)	**380**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/16/22 18:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2020**	mg/L	40.0	1		05/12/22 15:24		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-16 **Lab ID: 50315807003** Collected: 05/05/22 11:00 Received: 05/06/22 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		05/14/22 16:11		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 09:11	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 14:47	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		05/06/22 17:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/06/22 17:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis							
Phosphate as P04	**1.6**	mg/L	0.15	1	05/10/22 12:30	05/13/22 15:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.4**	mg/L	1.0	1		05/13/22 23:22	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		05/17/22 15:13		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: DUP 3 **Lab ID: 50315807004** Collected: 05/05/22 09:55 Received: 05/06/22 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	**77.1**	mg/L	2.5	10		05/20/22 10:58	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	1		05/20/22 10:39	16984-48-8	
Sulfate	**807**	mg/L	25.0	100		05/20/22 11:16	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/13/22 14:19	05/18/22 12:53	7429-90-5	
Barium	**88.8**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:53	7440-39-3	
Boron	**1310**	ug/L	100	1	05/13/22 14:19	05/18/22 12:53	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/13/22 14:19	05/18/22 12:53	7440-43-9	
Calcium	**260000**	ug/L	2000	2	05/13/22 14:19	05/18/22 13:50	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:53	7440-47-3	
Iron	**2180**	ug/L	100	1	05/13/22 14:19	05/18/22 12:53	7439-89-6	
Lead	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:53	7439-92-1	
Lithium	**715**	ug/L	20.0	1	05/13/22 14:19	05/18/22 12:53	7439-93-2	
Magnesium	**40800**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:53	7439-95-4	
Manganese	**453**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:53	7439-96-5	
Molybdenum	**76.9**	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:53	7439-98-7	
Potassium	**55600**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:53	7440-09-7	
Silica	**17500**	ug/L	450	1	05/13/22 14:19	05/18/22 12:53	7631-86-9	N2
Sodium	**71800**	ug/L	1000	1	05/13/22 14:19	05/18/22 12:53	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Manganese, Dissolved	**439**	ug/L	10.0	1	05/14/22 15:01	05/19/22 15:03	7439-96-5	
Molybdenum, Dissolved	**77.1**	ug/L	10.0	1	05/14/22 15:01	05/19/22 15:03	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:48	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:48	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/11/22 15:30	05/13/22 03:48	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:48	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:48	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:48	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**226**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Bicarbonate (CaCO3)	**226**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/16/22 18:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**1410**	mg/L	20.0	1		05/12/22 15:25		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: DUP 3 **Lab ID: 50315807004** Collected: 05/05/22 09:55 Received: 05/06/22 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	**7.2**	Std. Units	0.10	1		05/14/22 16:12		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis							
Sulfide	ND	mg/L	0.10	1		05/07/22 09:11	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	**0.95**	mg/L	0.20	1		05/10/22 14:48	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		05/06/22 17:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/06/22 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	**0.29**	mg/L	0.15	1	05/10/22 12:30	05/13/22 15:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1.3**	mg/L	1.0	1		05/13/22 23:33	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Dissolved Organic Carbon	**1.4**	mg/L	1.0	1		05/17/22 15:44		

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: FIELD BLANK 3 **Lab ID: 50315807005** Collected: 05/05/22 08:50 Received: 05/06/22 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		05/20/22 07:02	16887-00-6	
Fluoride	ND	mg/L	0.10	1		05/20/22 07:02	16984-48-8	
Sulfate	**0.44**	mg/L	0.25	1		05/20/22 07:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	ND	ug/L	200	1	05/13/22 14:19	05/18/22 12:55	7429-90-5	
Barium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:55	7440-39-3	
Boron	ND	ug/L	100	1	05/13/22 14:19	05/18/22 12:55	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/13/22 14:19	05/18/22 12:55	7440-43-9	
Calcium	ND	ug/L	1000	1	05/13/22 14:19	05/18/22 12:55	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:55	7440-47-3	
Iron	ND	ug/L	100	1	05/13/22 14:19	05/18/22 12:55	7439-89-6	
Lead	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:55	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/13/22 14:19	05/18/22 12:55	7439-93-2	
Magnesium	ND	ug/L	1000	1	05/13/22 14:19	05/18/22 12:55	7439-95-4	
Manganese	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:55	7439-96-5	
Molybdenum	ND	ug/L	10.0	1	05/13/22 14:19	05/18/22 12:55	7439-98-7	
Potassium	ND	ug/L	1000	1	05/13/22 14:19	05/18/22 12:55	7440-09-7	
Silica	ND	ug/L	450	1	05/13/22 14:19	05/18/22 12:55	7631-86-9	N2
Sodium	ND	ug/L	1000	1	05/13/22 14:19	05/18/22 12:55	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	05/11/22 15:30	05/13/22 03:53	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:53	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/11/22 15:30	05/13/22 03:53	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:53	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:53	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/11/22 15:30	05/13/22 03:53	7440-28-0	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**6.1**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Bicarbonate (CaCO3)	**6.1**	mg/L	2.0	1		05/16/22 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	2.0	1		05/16/22 18:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	ND	mg/L	10.0	1		05/12/22 15:27		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		05/14/22 16:17		H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: FIELD BLANK 3 **Lab ID: 50315807005** Collected: 05/05/22 08:50 Received: 05/06/22 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		05/07/22 09:11	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis							
Iron, Ferrous	ND	mg/L	0.20	1		05/10/22 14:48	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		05/06/22 16:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	1		05/06/22 16:33	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	05/10/22 12:30	05/13/22 15:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	ND	mg/L	1.0	1		05/14/22 00:55	7440-44-0	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676286
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

METHOD BLANK: 3114236 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/19/22 15:00	
Fluoride	mg/L	ND	0.10	05/19/22 15:00	
Sulfate	mg/L	ND	0.25	05/19/22 15:00	

LABORATORY CONTROL SAMPLE: 3114237

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	0.54	107	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114238 3114239

Parameter	Units	50315134002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2750	1250	1250	4590	4660	147	153	80-120	1	15	M0
Fluoride	mg/L	1.5	5	5	6.9	6.9	108	108	80-120	0	15	
Sulfate	mg/L	63.6	25	25	87.0	87.2	93	94	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114240 3114241

Parameter	Units	50315748001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	34.8	12.5	12.5	46.5	46.5	93	93	80-120	0	15	
Fluoride	mg/L	0.64	0.5	0.5	1.2	1.2	110	110	80-120	0	15	
Sulfate	mg/L	30.9	25	25	54.4	54.4	94	94	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676483
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50315807005

METHOD BLANK: 3114823 Matrix: Water
Associated Lab Samples: 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/19/22 07:21	
Fluoride	mg/L	ND	0.10	05/19/22 07:21	
Sulfate	mg/L	ND	0.25	05/19/22 07:21	

LABORATORY CONTROL SAMPLE: 3114824

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	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114825 3114826

Parameter	Units	50315810005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.1	1.2	1.2	4.2	4.2	90	89	80-120	0	15	
Fluoride	mg/L	0.12	0.5	0.5	0.58	0.58	93	92	80-120	1	15	
Sulfate	mg/L	23.5	25	25	46.9	46.4	93	91	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675194
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3109101 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/18/22 12:45	
Barium	ug/L	ND	10.0	05/18/22 12:45	
Boron	ug/L	ND	100	05/18/22 12:45	
Cadmium	ug/L	ND	2.0	05/18/22 12:45	
Calcium	ug/L	ND	1000	05/18/22 12:45	
Chromium	ug/L	ND	10.0	05/18/22 12:45	
Iron	ug/L	ND	100	05/18/22 12:45	
Lead	ug/L	ND	10.0	05/18/22 12:45	
Lithium	ug/L	ND	20.0	05/18/22 12:45	
Magnesium	ug/L	ND	1000	05/18/22 12:45	
Manganese	ug/L	ND	10.0	05/18/22 12:45	
Molybdenum	ug/L	ND	10.0	05/18/22 12:45	
Potassium	ug/L	ND	1000	05/18/22 12:45	
Silica	ug/L	ND	450	05/18/22 12:45	N2
Sodium	ug/L	ND	1000	05/18/22 12:45	

LABORATORY CONTROL SAMPLE: 3109102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	80-120	
Barium	ug/L	1000	1040	104	80-120	
Boron	ug/L	1000	996	100	80-120	
Cadmium	ug/L	1000	1000	100	80-120	
Calcium	ug/L	10000	9900	99	80-120	
Chromium	ug/L	1000	994	99	80-120	
Iron	ug/L	10000	9750	97	80-120	
Lead	ug/L	1000	975	98	80-120	
Lithium	ug/L	1000	1070	107	80-120	
Magnesium	ug/L	10000	9530	95	80-120	
Manganese	ug/L	1000	983	98	80-120	
Molybdenum	ug/L	1000	1020	102	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	10500	98	80-120	N2
Sodium	ug/L	10000	10400	104	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109103 3109104

Parameter	Units	50315831002 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	9910	101	99	75-125	3	20	
Barium	ug/L	0.043 mg/L	1000	1000	1050	994	101	95	75-125	5	20	
Boron	ug/L	1.1 mg/L	1000	1000	2080	2100	102	104	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1010	976	101	98	75-125	4	20	
Calcium	ug/L	130 mg/L	10000	10000	136000	140000	58	100	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	983	941	98	94	75-125	4	20	
Iron	ug/L	ND	10000	10000	9620	9330	96	93	75-125	3	20	
Lead	ug/L	ND	1000	1000	952	911	95	91	75-125	4	20	
Lithium	ug/L	0.14 mg/L	1000	1000	1220	1160	108	102	75-125	5	20	
Magnesium	ug/L	0.043J mg/L	10000	10000	9380	9100	93	91	75-125	3	20	
Manganese	ug/L	0.0026J mg/L	1000	1000	978	937	98	93	75-125	4	20	
Molybdenum	ug/L	0.029 mg/L	1000	1000	1050	1020	102	99	75-125	4	20	
Potassium	ug/L	79.4 mg/L	10000	10000	90200	89900	108	104	75-125	0	20	
Silica	ug/L	7.7 mg/L	10700	10700	18600	18500	101	101	75-125	0	20	N2
Sodium	ug/L	81.7 mg/L	10000	10000	92400	91900	106	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675142 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

METHOD BLANK: 3108890 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	10.0	05/19/22 14:25	
Molybdenum, Dissolved	ug/L	ND	10.0	05/19/22 14:25	

LABORATORY CONTROL SAMPLE: 3108891

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	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108892 3108893

Parameter	Units	50315806003 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	386	1000	1000	1340	1340	95	96	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1000	1010	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675548
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3110481 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/13/22 02:02	
Arsenic	ug/L	ND	1.0	05/13/22 02:02	
Beryllium	ug/L	ND	0.20	05/13/22 02:02	
Cobalt	ug/L	ND	1.0	05/13/22 02:02	
Selenium	ug/L	ND	1.0	05/13/22 02:02	
Thallium	ug/L	ND	1.0	05/13/22 02:02	

LABORATORY CONTROL SAMPLE: 3110482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.7	104	80-120	
Arsenic	ug/L	40	39.4	99	80-120	
Beryllium	ug/L	40	40.2	101	80-120	
Cobalt	ug/L	40	40.3	101	80-120	
Selenium	ug/L	40	40.1	100	80-120	
Thallium	ug/L	40	40.6	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110483 3110484

Parameter	Units	50315733002 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	45.3	42.8	113	107	75-125	6	20	
Arsenic	ug/L	ND	40	40	39.4	38.5	98	96	75-125	2	20	
Beryllium	ug/L	ND	40	40	43.5	40.8	109	102	75-125	6	20	
Cobalt	ug/L	ND	40	40	41.1	38.2	103	95	75-125	7	20	
Selenium	ug/L	ND	40	40	39.6	39.3	98	98	75-125	1	20	
Thallium	ug/L	ND	40	40	43.9	41.4	110	104	75-125	6	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676431 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3114685 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	2.0	05/16/22 18:42	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	2.0	05/16/22 18:42	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	2.0	05/16/22 18:42	

LABORATORY CONTROL SAMPLE: 3114686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.2	98	90-110	

SAMPLE DUPLICATE: 3114688

Parameter	Units	50315792009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	628	528	17	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	628	528	17	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675788 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3111633 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/12/22 15:11	

LABORATORY CONTROL SAMPLE: 3111634

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	291	97	80-120	

SAMPLE DUPLICATE: 3111635

Parameter	Units	50315792009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	573	571	0	10	

SAMPLE DUPLICATE: 3111636

Parameter	Units	50315810005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	281	280	0	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676291
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: 50315807001, 50315807002

SAMPLE DUPLICATE: 3114269

Parameter	Units	50312806003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.5	9.6	0	2	H3

SAMPLE DUPLICATE: 3114270

Parameter	Units	50315786003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676294
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: 50315807003, 50315807004, 50315807005

SAMPLE DUPLICATE: 3114279

Parameter	Units	50315810005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3114280

Parameter	Units	50315831007 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.7	2	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 674956 | 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: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3108153 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	05/07/22 09:11	

LABORATORY CONTROL SAMPLE: 3108154

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: 3108155 3108156

Parameter	Units	50315733002 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	0.41	86	82	90-110	5	20	M3

MATRIX SPIKE SAMPLE: 3108157

Parameter	Units	50315777001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	69	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675310 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 3109482 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	05/10/22 14:41	H3,N2

LABORATORY CONTROL SAMPLE: 3109483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.97	97	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109484 3109485

Parameter	Units	50315730005 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	1.2	1.1	97	94	90-110	3	20	H3,N2

MATRIX SPIKE SAMPLE: 3109486

Parameter	Units	50315807001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	0.67	1	1.6	96	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 674858
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: 50315807005

METHOD BLANK: 3107562 Matrix: Water
Associated Lab Samples: 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/06/22 15:43	
Nitrogen, Nitrite	mg/L	ND	0.10	05/06/22 15:43	

LABORATORY CONTROL SAMPLE: 3107563

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	0.97	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107564 3107565

Parameter	Units	50315776001 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	0.84	80	82	90-110	3	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.88	0.89	87	88	90-110	1	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107566 3107567

Parameter	Units	50315775002 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	0.88	0.88	85	86	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.88	0.88	88	87	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 674902 | 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: 50315807001, 50315807002, 50315807003, 50315807004

METHOD BLANK: 3107776 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	05/06/22 17:00	
Nitrogen, Nitrite	mg/L	ND	0.10	05/06/22 17:00	

LABORATORY CONTROL SAMPLE: 3107777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	90-110	
Nitrogen, Nitrite	mg/L	1	0.96	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107778 3107779

Parameter	Units	50315836008 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	2.7	1	1	3.7	3.7	99	97	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.99	96	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3107782

Parameter	Units	50315836007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	3.8	1	4.6	85	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 3
Pace Project No.: 50315807

QC Batch: 675362
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: 50315807001, 50315807002

METHOD BLANK: 3109659 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/13/22 14:42	

LABORATORY CONTROL SAMPLE: 3109660

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109661 3109662

Parameter	Units	50315733002 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				8		

MATRIX SPIKE SAMPLE: 3109663

Parameter	Units	50315807001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	5.5		7.4			

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 675364
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: 50315807003, 50315807004, 50315807005

METHOD BLANK: 3109668 Matrix: Water
Associated Lab Samples: 50315807003, 50315807004, 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	05/13/22 15:00	

LABORATORY CONTROL SAMPLE: 3109669

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3109670 3109671

Parameter	Units	50315742001 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	5.9			7.6	7.6				0		

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676186 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

METHOD BLANK: 3113651 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/13/22 17:42	

LABORATORY CONTROL SAMPLE: 3113652

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: 3113653 3113654

Parameter	Units	50315733002 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	2.7	10	10	11.9	11.8	92	91	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3113655 3113656

Parameter	Units	50315751001 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	15.9	40	40	52.1	57.8	91	105	80-120	10	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676189
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807005

METHOD BLANK: 3113658 Matrix: Water
Associated Lab Samples: 50315807005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	05/13/22 23:42	

LABORATORY CONTROL SAMPLE: 3113659

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: 3113660 3113661

Parameter	Units	50315748001 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	0.86	10	10	10.8	10.8	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3113662

Parameter	Units	50315838001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	11.1	104	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676497
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807001

METHOD BLANK: 3114854 Matrix: Water
Associated Lab Samples: 50315807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/17/22 08:47	

LABORATORY CONTROL SAMPLE: 3114855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114856 3114857

Parameter	Units	50315730005 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	12.1	13.3	104	115	80-120	9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114858 3114859

Parameter	Units	50315733002 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	2.7	10	10	13.3	12.8	106	101	80-120	4	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 676499
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50315807002, 50315807003, 50315807004

METHOD BLANK: 3114861 Matrix: Water
Associated Lab Samples: 50315807002, 50315807003, 50315807004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	05/17/22 14:37	

LABORATORY CONTROL SAMPLE: 3114862

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: 3114863 3114864

Parameter	Units	50315836008 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	10.8	103	105	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114865 3114866

Parameter	Units	50315883004 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	11.8	100	100	111	106	99	94	80-120	4	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-14 **Lab ID: 50315807001** Collected: 05/05/22 09:05 Received: 05/06/22 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	**0.367 ± 0.520 (0.881) C:NA T:96%**	pCi/L	06/10/22 13:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.875 ± 0.449 (0.775) C:68% T:84%**	pCi/L	06/04/22 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.24 ± 0.969 (1.66)**	pCi/L	06/13/22 14:57	7440-14-4	

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-15 **Lab ID: 50315807002** Collected: 05/05/22 09:55 Received: 05/06/22 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	**0.409 ± 0.623 (1.07) C:NA T:93%**	pCi/L	06/10/22 13:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.842 ± 0.418 (0.715) C:68% T:93%**	pCi/L	06/04/22 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.25 ± 1.04 (1.79)**	pCi/L	06/13/22 14:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: MW-16 **Lab ID: 50315807003** Collected: 05/05/22 11:00 Received: 05/06/22 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	**0.362 ± 0.620 (1.09) C:NA T:93%**	pCi/L	06/10/22 13:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.32 ± 0.492 (0.711) C:68% T:89%**	pCi/L	06/04/22 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.68 ± 1.11 (1.80)**	pCi/L	06/13/22 14:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: DUP 3 **Lab ID: 50315807004** Collected: 05/05/22 09:55 Received: 05/06/22 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	**0.441 ± 0.613 (1.04) C:NA T:92%**	pCi/L	06/10/22 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.61 ± 0.578 (0.841) C:67% T:87%**	pCi/L	06/04/22 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.05 ± 1.19 (1.88)**	pCi/L	06/13/22 14:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Sample: FIELD BLANK 3 **Lab ID: 50315807005** Collected: 05/05/22 08:50 Received: 05/06/22 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	**0.141 ± 0.676 (1.28) C:NA T:96%**	pCi/L	06/10/22 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.646 ± 0.382 (0.686) C:71% T:85%**	pCi/L	06/04/22 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.787 ± 1.06 (1.97)**	pCi/L	06/13/22 14:57	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

QC Batch: 505228
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: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 2447141 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.240 (0.489) C:NA T:97%	pCi/L	06/10/22 12:19	

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 3
Pace Project No.: 50315807

QC Batch: 505229
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: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

METHOD BLANK: 2447144 Matrix: Water
Associated Lab Samples: 50315807001, 50315807002, 50315807003, 50315807004, 50315807005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.319 ± 0.255 (0.496) C:82% T:95%	pCi/L	06/04/22 15:08	

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: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

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.
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 Profile 2 Report 3
Pace Project No.: 50315807

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315807001	**MW-14**	EPA 9056	676286		
50315807002	**MW-15**	EPA 9056	676286		
50315807003	**MW-16**	EPA 9056	676286		
50315807004	**DUP 3**	EPA 9056	676286		
50315807005	**FIELD BLANK 3**	EPA 9056	676483		
50315807001	**MW-14**	EPA 3010	675194	EPA 6010	676902
50315807002	**MW-15**	EPA 3010	675194	EPA 6010	676902
50315807003	**MW-16**	EPA 3010	675194	EPA 6010	676902
50315807004	**DUP 3**	EPA 3010	675194	EPA 6010	676902
50315807005	**FIELD BLANK 3**	EPA 3010	675194	EPA 6010	676902
50315807001	**MW-14**	EPA 3010	675142	EPA 6010	677187
50315807002	**MW-15**	EPA 3010	675142	EPA 6010	677187
50315807003	**MW-16**	EPA 3010	675142	EPA 6010	677187
50315807004	**DUP 3**	EPA 3010	675142	EPA 6010	677187
50315807001	**MW-14**	EPA 200.2	675548	EPA 6020	675755
50315807002	**MW-15**	EPA 200.2	675548	EPA 6020	675755
50315807003	**MW-16**	EPA 200.2	675548	EPA 6020	675755
50315807004	**DUP 3**	EPA 200.2	675548	EPA 6020	675755
50315807005	**FIELD BLANK 3**	EPA 200.2	675548	EPA 6020	675755
50315807001	**MW-14**	EPA 903.1	505228		
50315807002	**MW-15**	EPA 903.1	505228		
50315807003	**MW-16**	EPA 903.1	505228		
50315807004	**DUP 3**	EPA 903.1	505228		
50315807005	**FIELD BLANK 3**	EPA 903.1	505228		
50315807001	**MW-14**	EPA 904.0	505229		
50315807002	**MW-15**	EPA 904.0	505229		
50315807003	**MW-16**	EPA 904.0	505229		
50315807004	**DUP 3**	EPA 904.0	505229		
50315807005	**FIELD BLANK 3**	EPA 904.0	505229		
50315807001	**MW-14**	Total Radium Calculation	511320		
50315807002	**MW-15**	Total Radium Calculation	511320		
50315807003	**MW-16**	Total Radium Calculation	511320		
50315807004	**DUP 3**	Total Radium Calculation	511320		
50315807005	**FIELD BLANK 3**	Total Radium Calculation	511320		
50315807001	**MW-14**	SM 2320B	676431		
50315807002	**MW-15**	SM 2320B	676431		
50315807003	**MW-16**	SM 2320B	676431		
50315807004	**DUP 3**	SM 2320B	676431		
50315807005	**FIELD BLANK 3**	SM 2320B	676431		
50315807001	**MW-14**	SM 2540C	675788		
50315807002	**MW-15**	SM 2540C	675788		
50315807003	**MW-16**	SM 2540C	675788		
50315807004	**DUP 3**	SM 2540C	675788		
50315807005	**FIELD BLANK 3**	SM 2540C	675788		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg Profile 2 Report 3
Pace Project No.: 50315807

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50315807001	**MW-14**	SM 4500-H+B	676291		
50315807002	**MW-15**	SM 4500-H+B	676291		
50315807003	**MW-16**	SM 4500-H+B	676294		
50315807004	**DUP 3**	SM 4500-H+B	676294		
50315807005	**FIELD BLANK 3**	SM 4500-H+B	676294		
50315807001	**MW-14**	SM 4500-S2-D	674956		
50315807002	**MW-15**	SM 4500-S2-D	674956		
50315807003	**MW-16**	SM 4500-S2-D	674956		
50315807004	**DUP 3**	SM 4500-S2-D	674956		
50315807005	**FIELD BLANK 3**	SM 4500-S2-D	674956		
50315807001	**MW-14**	HACH 8146	675310		
50315807002	**MW-15**	HACH 8146	675310		
50315807003	**MW-16**	HACH 8146	675310		
50315807004	**DUP 3**	HACH 8146	675310		
50315807005	**FIELD BLANK 3**	HACH 8146	675310		
50315807001	**MW-14**	EPA 353.2	674902		
50315807002	**MW-15**	EPA 353.2	674902		
50315807003	**MW-16**	EPA 353.2	674902		
50315807004	**DUP 3**	EPA 353.2	674902		
50315807005	**FIELD BLANK 3**	EPA 353.2	674858		
50315807001	**MW-14**	EPA 365.1	675362	EPA 365.1	676256
50315807002	**MW-15**	EPA 365.1	675362	EPA 365.1	676256
50315807003	**MW-16**	EPA 365.1	675364	EPA 365.1	676257
50315807004	**DUP 3**	EPA 365.1	675364	EPA 365.1	676257
50315807005	**FIELD BLANK 3**	EPA 365.1	675364	EPA 365.1	676257
50315807001	**MW-14**	SM 5310C	676186		
50315807002	**MW-15**	SM 5310C	676186		
50315807003	**MW-16**	SM 5310C	676186		
50315807004	**DUP 3**	SM 5310C	676186		
50315807005	**FIELD BLANK 3**	SM 5310C	676189		
50315807001	**MW-14**	SM 5310C	676497		
50315807002	**MW-15**	SM 5310C	676499		
50315807003	**MW-16**	SM 5310C	676499		
50315807004	**DUP 3**	SM 5310C	676499		

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WO# : 50315807

50315807

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

Company: Atlas Indianapolis	Report To: Mark Breting	Section C Invoice Information:	
Address: 7988 Centerpoint Drive Suite 100	Copy To:	Attention: Accounts Payable - Paula Sedam	
Indianapolis, IN 46256		Company Name: Atlas Indianapolis	
Email: mark.breting@oneatlas.com	Purchase Order #:	Address:	Regulatory Agency
Phone: (317)579-4082 Fax:	Project Name: Petersburg Profile 2 Report 3	Pace Quote:	
Requested Due Date:	Project #:	Pace Project Manager: Hayden Putt	State / Location
		Pace Profile #: 10498/10	IN

Project Information:

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	Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS	(Cl, F, SO4, NO2, NO3) IC	Metals, Total*	Metals Diss. Field Filtered**	Rad-228	Rad-226	Alkalinity, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate		Residual Chlorine (Y/N)	
																						Y					Y					
1	MW-14	WT		5.5.22	0905				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
2	MW-15	WT		5.5.22	0955				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
3	MW-16	WT		5.5.22	1100				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
4	DUP 3	WT		5.5.22	0955				11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X			
5	FIELD BLANK 3	WT		5.5.22	0850				9	3	2	3		1					X	X	X		X	X	X	X		X	X			
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Al, Ba, B, Cd, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	[signature]	5.6.22	1105	[signature]	5/6/22	1105	3.1	Y	Y	Y
6020 (Be, Co, As, Se, Sb, Tl)							2.3			
** Dissolved FF 6010 (Mo, Mn)							2.1			
Alkalinity = (Total , Bicarb & Carb)										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Doerner

SIGNATURE of SAMPLER: [signature]

DATE Signed: 5.5.22

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: NTR 5/6/22 1200

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):** 3.3/3.1 | 2.5/2.3 | 2.3/2.1 | (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: NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1235			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 **

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	1	2	1	1	1		1					S	✓	✓	
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 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

REPORT OF LABORATORY ANALYSIS

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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

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

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

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

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		

REPORT OF LABORATORY ANALYSIS

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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		

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
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	

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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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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: 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 | Analysis Method: SM 2540C
QC Batch 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
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: 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
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: 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
QC Batch Method: SM 5310C
Analysis 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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Indianapolis, IN 46268
(317)228-3100

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.

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 2 Report 6	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/14

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 + 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
	Requested Analysis Filtered (Y/N)																					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	1055	Hayden Putt	5/9/22	1055	see	Y	N	Y
** Dissolved FF 6010 (Mo, Mn)							sour			
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 Dorner					
SIGNATURE of SAMPLER:		DATE Signed: 5-9-22				

F-IN-Q-290-rev.22, 22Apr2022

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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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

REPORT OF LABORATORY ANALYSIS

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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

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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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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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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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Pace Analytical Services, LLC
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	

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(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

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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 | Analysis Method: EPA 7470
QC Batch 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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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
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
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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Indianapolis, IN 46268
(317)228-3100

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	

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

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	

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 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 (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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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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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.

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

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)	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	1530				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																									

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)		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	Hayden Putt	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)

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)	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** 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 10, 2022

Mr. Mark Breting
ATC Group Services
7988 Centerpoint Drive
Suite 100
Indianapolis, IN 46256

RE: Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 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

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CERTIFICATIONS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

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 5 Report 1
Pace Project No.: 50316352

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50316352001	**MW-32D2**	Water	05/11/22 09:33	05/12/22 13:45
50316352002	**MW-33I**	Water	05/10/22 14:45	05/12/22 13:45
50316352003	**MW-33D2**	Water	05/10/22 15:50	05/12/22 13:45
50316352004	**MW-35SS**	Water	05/11/22 12:21	05/12/22 13:45
50316352005	**MW-35D2**	Water	05/11/22 11:45	05/12/22 13:45

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SAMPLE ANALYTE COUNT

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50316352001	**MW-32D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	6	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316352002	**MW-33I**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	6	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316352003	**MW-33D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	6	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316352004	**MW-35SS**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	6	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50316352005	**MW-35D2**	EPA 9056	BK1	3	PASI-I
		EPA 6010	JPK	15	PASI-I
		EPA 6020	DMT	6	PASI-I
		SM 2540C	BSW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316352001	**MW-32D2**					
EPA 9056	Chloride	10.7	mg/L	2.5	05/25/22 21:03	
EPA 9056	Fluoride	2.0	mg/L	0.10	05/25/22 20:44	
EPA 9056	Sulfate	11.1	mg/L	0.25	05/25/22 20:44	
EPA 6010	Aluminum	4590	ug/L	200	05/25/22 03:17	
EPA 6010	Barium	158	ug/L	10.0	05/25/22 03:17	
EPA 6010	Boron	936	ug/L	100	05/25/22 03:17	
EPA 6010	Calcium	8280	ug/L	1000	05/25/22 03:17	
EPA 6010	Chromium	11.5	ug/L	10.0	05/25/22 03:17	
EPA 6010	Iron	4100	ug/L	100	05/25/22 03:17	
EPA 6010	Magnesium	2770	ug/L	1000	05/25/22 03:17	
EPA 6010	Manganese	101	ug/L	10.0	05/25/22 03:17	
EPA 6010	Molybdenum	19.2	ug/L	10.0	05/25/22 03:17	
EPA 6010	Potassium	3100	ug/L	1000	05/25/22 03:17	
EPA 6010	Silica	21100	ug/L	450	05/25/22 03:17	N2
EPA 6010	Sodium	130000	ug/L	1000	05/25/22 03:17	
EPA 6020	Arsenic	2.4	ug/L	1.0	05/19/22 07:14	
EPA 6020	Beryllium	0.25	ug/L	0.20	05/20/22 02:37	
EPA 6020	Cobalt	1.6	ug/L	1.0	05/19/22 07:14	
EPA 6020	Selenium	1.5	ug/L	1.0	05/19/22 07:14	
SM 2540C	Total Dissolved Solids	395	mg/L	10.0	05/18/22 11:44	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/19/22 12:19	H3
50316352002	**MW-33I**					
EPA 9056	Chloride	115	mg/L	2.5	05/25/22 22:53	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/25/22 21:39	
EPA 9056	Sulfate	1860	mg/L	25.0	05/25/22 21:58	
EPA 6010	Aluminum	298	ug/L	200	05/25/22 03:19	
EPA 6010	Barium	64.0	ug/L	10.0	05/25/22 03:19	
EPA 6010	Boron	2060	ug/L	100	05/25/22 03:19	
EPA 6010	Calcium	449000	ug/L	3000	05/25/22 03:37	
EPA 6010	Iron	24000	ug/L	100	05/25/22 03:19	
EPA 6010	Lithium	200	ug/L	20.0	05/25/22 03:19	
EPA 6010	Magnesium	97000	ug/L	1000	05/25/22 03:19	
EPA 6010	Manganese	2280	ug/L	10.0	05/25/22 03:19	
EPA 6010	Molybdenum	12.9	ug/L	10.0	05/25/22 03:19	
EPA 6010	Potassium	7790	ug/L	1000	05/25/22 03:19	
EPA 6010	Silica	19800	ug/L	450	05/25/22 03:19	N2
EPA 6010	Sodium	257000	ug/L	3000	05/25/22 03:37	
EPA 6020	Arsenic	10.3	ug/L	1.0	05/19/22 07:19	
EPA 6020	Cobalt	1.2	ug/L	1.0	05/19/22 07:19	
SM 2540C	Total Dissolved Solids	2710	mg/L	40.0	05/17/22 13:46	
SM 4500-H+B	pH at 25 Degrees C	8.3	Std. Units	0.10	05/19/22 12:20	H3
50316352003	**MW-33D2**					
EPA 9056	Chloride	44.9	mg/L	2.5	05/25/22 23:30	
EPA 9056	Fluoride	4.1	mg/L	0.10	05/25/22 23:11	
EPA 9056	Sulfate	8.1	mg/L	0.25	05/25/22 23:11	
EPA 6010	Aluminum	4220	ug/L	200	05/25/22 03:21	

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

SUMMARY OF DETECTION

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316352003	**MW-33D2**					
EPA 6010	Barium	167	ug/L	10.0	05/25/22 03:21	
EPA 6010	Boron	1160	ug/L	100	05/25/22 03:21	
EPA 6010	Calcium	5010	ug/L	1000	05/25/22 03:21	
EPA 6010	Iron	3200	ug/L	100	05/25/22 03:21	
EPA 6010	Lithium	28.4	ug/L	20.0	05/25/22 03:21	
EPA 6010	Magnesium	2350	ug/L	1000	05/25/22 03:21	
EPA 6010	Manganese	68.5	ug/L	10.0	05/25/22 03:21	
EPA 6010	Molybdenum	30.9	ug/L	10.0	05/25/22 03:21	
EPA 6010	Potassium	3270	ug/L	1000	05/25/22 03:21	
EPA 6010	Silica	23500	ug/L	450	05/25/22 03:21	N2
EPA 6010	Sodium	279000	ug/L	2000	05/25/22 03:39	
EPA 6020	Antimony	1.1	ug/L	1.0	05/19/22 07:23	
EPA 6020	Arsenic	2.4	ug/L	1.0	05/19/22 07:23	
EPA 6020	Beryllium	0.21	ug/L	0.20	05/20/22 02:45	
EPA 6020	Cobalt	1.3	ug/L	1.0	05/19/22 07:23	
EPA 6020	Selenium	1.2	ug/L	1.0	05/19/22 07:23	
SM 2540C	Total Dissolved Solids	653	mg/L	10.0	05/17/22 13:47	
SM 4500-H+B	pH at 25 Degrees C	8.5	Std. Units	0.10	05/19/22 12:21	H3
50316352004	**MW-35SS**					
EPA 9056	Chloride	12.4	mg/L	2.5	05/26/22 00:25	
EPA 9056	Fluoride	0.46	mg/L	0.10	05/26/22 00:07	
EPA 9056	Sulfate	61.9	mg/L	2.5	05/26/22 00:25	
EPA 6010	Aluminum	1610	ug/L	200	05/25/22 03:27	
EPA 6010	Barium	202	ug/L	10.0	05/25/22 03:27	
EPA 6010	Boron	632	ug/L	100	05/25/22 03:27	
EPA 6010	Calcium	55700	ug/L	1000	05/25/22 03:27	
EPA 6010	Iron	2310	ug/L	100	05/25/22 03:27	
EPA 6010	Lithium	35.5	ug/L	20.0	05/25/22 03:27	
EPA 6010	Magnesium	12900	ug/L	1000	05/25/22 03:27	
EPA 6010	Manganese	419	ug/L	10.0	05/25/22 03:27	
EPA 6010	Molybdenum	28.7	ug/L	10.0	05/25/22 03:27	
EPA 6010	Potassium	3710	ug/L	1000	05/25/22 03:27	
EPA 6010	Silica	17400	ug/L	450	05/25/22 03:27	N2
EPA 6010	Sodium	117000	ug/L	1000	05/25/22 03:27	
EPA 6020	Arsenic	1.2	ug/L	1.0	05/19/22 07:27	
EPA 6020	Cobalt	9.9	ug/L	1.0	05/19/22 07:27	
EPA 6020	Selenium	1.5	ug/L	1.0	05/19/22 07:27	
SM 2540C	Total Dissolved Solids	503	mg/L	10.0	05/18/22 11:44	
SM 4500-H+B	pH at 25 Degrees C	8.4	Std. Units	0.10	05/20/22 15:01	H3
50316352005	**MW-35D2**					
EPA 9056	Chloride	11.9	mg/L	2.5	05/26/22 01:20	
EPA 9056	Fluoride	2.1	mg/L	0.10	05/26/22 01:02	
EPA 9056	Sulfate	14.1	mg/L	0.25	05/26/22 01:02	
EPA 6010	Aluminum	1840	ug/L	200	05/25/22 03:29	
EPA 6010	Barium	154	ug/L	10.0	05/25/22 03:29	
EPA 6010	Boron	1240	ug/L	100	05/25/22 03:29	

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

SUMMARY OF DETECTION

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50316352005	**MW-35D2**					
EPA 6010	Calcium	6930	ug/L	1000	05/25/22 03:29	
EPA 6010	Iron	1540	ug/L	100	05/25/22 03:29	
EPA 6010	Magnesium	2030	ug/L	1000	05/25/22 03:29	
EPA 6010	Manganese	47.7	ug/L	10.0	05/25/22 03:29	
EPA 6010	Molybdenum	15.5	ug/L	10.0	05/25/22 03:29	
EPA 6010	Potassium	1720	ug/L	1000	05/25/22 03:29	
EPA 6010	Silica	17000	ug/L	450	05/25/22 03:29	N2
EPA 6010	Sodium	114000	ug/L	1000	05/25/22 03:29	
EPA 6020	Arsenic	2.3	ug/L	1.0	05/19/22 07:39	
SM 2540C	Total Dissolved Solids	337	mg/L	10.0	05/18/22 11:44	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	05/20/22 15:02	H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Sample: MW-32D2 **Lab ID: 50316352001** Collected: 05/11/22 09:33 Received: 05/12/22 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**10.7**	mg/L	2.5	10		05/25/22 21:03	16887-00-6	
Fluoride	**2.0**	mg/L	0.10	1		05/25/22 20:44	16984-48-8	
Sulfate	**11.1**	mg/L	0.25	1		05/25/22 20:44	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**4590**	ug/L	200	1	05/24/22 14:38	05/25/22 03:17	7429-90-5	
Barium	**158**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:17	7440-39-3	
Boron	**936**	ug/L	100	1	05/24/22 14:38	05/25/22 03:17	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/24/22 14:38	05/25/22 03:17	7440-43-9	
Calcium	**8280**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:17	7440-70-2	
Chromium	**11.5**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:17	7440-47-3	
Iron	**4100**	ug/L	100	1	05/24/22 14:38	05/25/22 03:17	7439-89-6	
Lead	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:17	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/24/22 14:38	05/25/22 03:17	7439-93-2	
Magnesium	**2770**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:17	7439-95-4	
Manganese	**101**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:17	7439-96-5	
Molybdenum	**19.2**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:17	7439-98-7	
Potassium	**3100**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:17	7440-09-7	
Silica	**21100**	ug/L	450	1	05/24/22 14:38	05/25/22 03:17	7631-86-9	N2
Sodium	**130000**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:17	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	05/18/22 08:45	05/19/22 07:14	7440-36-0	
Arsenic	**2.4**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:14	7440-38-2	
Beryllium	**0.25**	ug/L	0.20	1	05/18/22 08:45	05/20/22 02:37	7440-41-7	
Cobalt	**1.6**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:14	7440-48-4	
Selenium	**1.5**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:14	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:14	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**395**	mg/L	10.0	1		05/18/22 11:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		05/19/22 12:19		H3

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Sample: MW-33I **Lab ID: 50316352002** Collected: 05/10/22 14:45 Received: 05/12/22 13:45 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	**115**	mg/L	2.5	10		05/25/22 22:53	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	1		05/25/22 21:39	16984-48-8	
Sulfate	**1860**	mg/L	25.0	100		05/25/22 21:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**298**	ug/L	200	1	05/24/22 14:38	05/25/22 03:19	7429-90-5	
Barium	**64.0**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:19	7440-39-3	
Boron	**2060**	ug/L	100	1	05/24/22 14:38	05/25/22 03:19	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/24/22 14:38	05/25/22 03:19	7440-43-9	
Calcium	**449000**	ug/L	3000	3	05/24/22 14:38	05/25/22 03:37	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:19	7440-47-3	
Iron	**24000**	ug/L	100	1	05/24/22 14:38	05/25/22 03:19	7439-89-6	
Lead	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:19	7439-92-1	
Lithium	**200**	ug/L	20.0	1	05/24/22 14:38	05/25/22 03:19	7439-93-2	
Magnesium	**97000**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:19	7439-95-4	
Manganese	**2280**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:19	7439-96-5	
Molybdenum	**12.9**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:19	7439-98-7	
Potassium	**7790**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:19	7440-09-7	
Silica	**19800**	ug/L	450	1	05/24/22 14:38	05/25/22 03:19	7631-86-9	N2
Sodium	**257000**	ug/L	3000	3	05/24/22 14:38	05/25/22 03:37	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	05/18/22 08:45	05/19/22 07:19	7440-36-0	
Arsenic	**10.3**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:19	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/18/22 08:45	05/20/22 02:41	7440-41-7	
Cobalt	**1.2**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:19	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:19	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:19	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2710**	mg/L	40.0	1		05/17/22 13:46		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.3**	Std. Units	0.10	1		05/19/22 12:20		H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Sample: MW-33D2 **Lab ID: 50316352003** Collected: 05/10/22 15:50 Received: 05/12/22 13:45 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	**44.9**	mg/L	2.5	10		05/25/22 23:30	16887-00-6	
Fluoride	**4.1**	mg/L	0.10	1		05/25/22 23:11	16984-48-8	
Sulfate	**8.1**	mg/L	0.25	1		05/25/22 23:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**4220**	ug/L	200	1	05/24/22 14:38	05/25/22 03:21	7429-90-5	
Barium	**167**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:21	7440-39-3	
Boron	**1160**	ug/L	100	1	05/24/22 14:38	05/25/22 03:21	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/24/22 14:38	05/25/22 03:21	7440-43-9	
Calcium	**5010**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:21	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:21	7440-47-3	
Iron	**3200**	ug/L	100	1	05/24/22 14:38	05/25/22 03:21	7439-89-6	
Lead	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:21	7439-92-1	
Lithium	**28.4**	ug/L	20.0	1	05/24/22 14:38	05/25/22 03:21	7439-93-2	
Magnesium	**2350**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:21	7439-95-4	
Manganese	**68.5**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:21	7439-96-5	
Molybdenum	**30.9**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:21	7439-98-7	
Potassium	**3270**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:21	7440-09-7	
Silica	**23500**	ug/L	450	1	05/24/22 14:38	05/25/22 03:21	7631-86-9	N2
Sodium	**279000**	ug/L	2000	2	05/24/22 14:38	05/25/22 03:39	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**1.1**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:23	7440-36-0	
Arsenic	**2.4**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:23	7440-38-2	
Beryllium	**0.21**	ug/L	0.20	1	05/18/22 08:45	05/20/22 02:45	7440-41-7	
Cobalt	**1.3**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:23	7440-48-4	
Selenium	**1.2**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:23	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:23	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**653**	mg/L	10.0	1		05/17/22 13:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.5**	Std. Units	0.10	1		05/19/22 12:21		H3

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ANALYTICAL RESULTS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Sample: MW-35SS **Lab ID: 50316352004** Collected: 05/11/22 12:21 Received: 05/12/22 13:45 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	**12.4**	mg/L	2.5	10		05/26/22 00:25	16887-00-6	
Fluoride	**0.46**	mg/L	0.10	1		05/26/22 00:07	16984-48-8	
Sulfate	**61.9**	mg/L	2.5	10		05/26/22 00:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1610**	ug/L	200	1	05/24/22 14:38	05/25/22 03:27	7429-90-5	
Barium	**202**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:27	7440-39-3	
Boron	**632**	ug/L	100	1	05/24/22 14:38	05/25/22 03:27	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/24/22 14:38	05/25/22 03:27	7440-43-9	
Calcium	**55700**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:27	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:27	7440-47-3	
Iron	**2310**	ug/L	100	1	05/24/22 14:38	05/25/22 03:27	7439-89-6	
Lead	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:27	7439-92-1	
Lithium	**35.5**	ug/L	20.0	1	05/24/22 14:38	05/25/22 03:27	7439-93-2	
Magnesium	**12900**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:27	7439-95-4	
Manganese	**419**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:27	7439-96-5	
Molybdenum	**28.7**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:27	7439-98-7	
Potassium	**3710**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:27	7440-09-7	
Silica	**17400**	ug/L	450	1	05/24/22 14:38	05/25/22 03:27	7631-86-9	N2
Sodium	**117000**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:27	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	05/18/22 08:45	05/19/22 07:27	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:27	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/18/22 08:45	05/20/22 02:50	7440-41-7	
Cobalt	**9.9**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:27	7440-48-4	
Selenium	**1.5**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:27	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:27	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**503**	mg/L	10.0	1		05/18/22 11:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.4**	Std. Units	0.10	1		05/20/22 15:01		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

Sample: MW-35D2 **Lab ID: 50316352005** Collected: 05/11/22 11:45 Received: 05/12/22 13:45 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	**11.9**	mg/L	2.5	10		05/26/22 01:20	16887-00-6	
Fluoride	**2.1**	mg/L	0.10	1		05/26/22 01:02	16984-48-8	
Sulfate	**14.1**	mg/L	0.25	1		05/26/22 01:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Aluminum	**1840**	ug/L	200	1	05/24/22 14:38	05/25/22 03:29	7429-90-5	
Barium	**154**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:29	7440-39-3	
Boron	**1240**	ug/L	100	1	05/24/22 14:38	05/25/22 03:29	7440-42-8	
Cadmium	ND	ug/L	2.0	1	05/24/22 14:38	05/25/22 03:29	7440-43-9	
Calcium	**6930**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:29	7440-70-2	
Chromium	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:29	7440-47-3	
Iron	**1540**	ug/L	100	1	05/24/22 14:38	05/25/22 03:29	7439-89-6	
Lead	ND	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:29	7439-92-1	
Lithium	ND	ug/L	20.0	1	05/24/22 14:38	05/25/22 03:29	7439-93-2	
Magnesium	**2030**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:29	7439-95-4	
Manganese	**47.7**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:29	7439-96-5	
Molybdenum	**15.5**	ug/L	10.0	1	05/24/22 14:38	05/25/22 03:29	7439-98-7	
Potassium	**1720**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:29	7440-09-7	
Silica	**17000**	ug/L	450	1	05/24/22 14:38	05/25/22 03:29	7631-86-9	N2
Sodium	**114000**	ug/L	1000	1	05/24/22 14:38	05/25/22 03:29	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	05/18/22 08:45	05/19/22 07:39	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:39	7440-38-2	
Beryllium	ND	ug/L	0.20	1	05/18/22 08:45	05/20/22 03:02	7440-41-7	
Cobalt	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:39	7440-48-4	
Selenium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:39	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/18/22 08:45	05/19/22 07:39	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**337**	mg/L	10.0	1		05/18/22 11:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		05/20/22 15:02		H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 677934 | Analysis Method: EPA 9056
QC Batch Method: EPA 9056 | Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

METHOD BLANK: 3121412 Matrix: Water
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	05/25/22 11:50	
Fluoride	mg/L	ND	0.10	05/25/22 11:50	
Sulfate	mg/L	ND	0.25	05/25/22 11:50	

LABORATORY CONTROL SAMPLE: 3121413

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	0.55	110	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121414 3121415

Parameter	Units	50316333004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	160	125	125	274	278	91	94	80-120	2	15	
Fluoride	mg/L	0.61	0.5	0.5	1.2	1.2	112	112	80-120	0	15	
Sulfate	mg/L	475	250	250	699	705	90	92	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 677577
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

METHOD BLANK: 3120315 Matrix: Water
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	05/25/22 02:43	
Barium	ug/L	ND	10.0	05/25/22 02:43	
Boron	ug/L	ND	100	05/25/22 02:43	
Cadmium	ug/L	ND	2.0	05/25/22 02:43	
Calcium	ug/L	ND	1000	05/25/22 02:43	
Chromium	ug/L	ND	10.0	05/25/22 02:43	
Iron	ug/L	ND	100	05/25/22 02:43	
Lead	ug/L	ND	10.0	05/25/22 02:43	
Lithium	ug/L	ND	20.0	05/25/22 02:43	
Magnesium	ug/L	ND	1000	05/25/22 02:43	
Manganese	ug/L	ND	10.0	05/25/22 02:43	
Molybdenum	ug/L	ND	10.0	05/25/22 02:43	
Potassium	ug/L	ND	1000	05/25/22 02:43	
Silica	ug/L	ND	450	05/25/22 02:43	N2
Sodium	ug/L	ND	1000	05/25/22 02:43	

LABORATORY CONTROL SAMPLE: 3120316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9670	97	80-120	
Barium	ug/L	1000	959	96	80-120	
Boron	ug/L	1000	966	97	80-120	
Cadmium	ug/L	1000	965	97	80-120	
Calcium	ug/L	10000	9790	98	80-120	
Chromium	ug/L	1000	972	97	80-120	
Iron	ug/L	10000	9650	97	80-120	
Lead	ug/L	1000	927	93	80-120	
Lithium	ug/L	1000	1040	104	80-120	
Magnesium	ug/L	10000	9450	95	80-120	
Manganese	ug/L	1000	944	94	80-120	
Molybdenum	ug/L	1000	990	99	80-120	
Potassium	ug/L	10000	9900	99	80-120	
Silica	ug/L	10700	10200	95	80-120	N2
Sodium	ug/L	10000	9900	99	80-120	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120317 3120318

Parameter	Units	50316334004 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	10100	103	101	75-125	2	20	
Barium	ug/L	141	1000	1000	1160	1140	102	100	75-125	1	20	
Boron	ug/L	766	1000	1000	1830	1800	106	103	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	1040	1010	104	101	75-125	2	20	
Calcium	ug/L	137000	10000	10000	149000	149000	122	120	75-125	0	20	
Chromium	ug/L	ND	1000	1000	1020	991	102	99	75-125	3	20	
Iron	ug/L	ND	10000	10000	10100	9820	100	97	75-125	3	20	
Lead	ug/L	ND	1000	1000	945	926	94	93	75-125	2	20	
Lithium	ug/L	24.7	1000	1000	1200	1180	117	116	75-125	1	20	
Magnesium	ug/L	30700	10000	10000	41000	40800	103	100	75-125	1	20	
Manganese	ug/L	2170	1000	1000	3160	3110	99	94	75-125	1	20	
Molybdenum	ug/L	52.6	1000	1000	1100	1080	105	102	75-125	2	20	
Potassium	ug/L	6340	10000	10000	17400	17200	110	109	75-125	1	20	
Silica	ug/L	15100	10700	10700	26200	26000	104	102	75-125	1	20	N2
Sodium	ug/L	60700	10000	10000	72600	72900	118	121	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 676694
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

METHOD BLANK: 3115551 Matrix: Water
Associated Lab Samples: 50316352001, 50316352002, 50316352003, 50316352004, 50316352005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/19/22 06:00	
Arsenic	ug/L	ND	1.0	05/19/22 06:00	
Beryllium	ug/L	ND	0.20	05/19/22 06:00	
Cobalt	ug/L	ND	1.0	05/19/22 06:00	
Selenium	ug/L	ND	1.0	05/19/22 06:00	
Thallium	ug/L	ND	1.0	05/19/22 06:00	

LABORATORY CONTROL SAMPLE: 3115552

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.9	107	80-120	
Arsenic	ug/L	40	39.4	98	80-120	
Beryllium	ug/L	40	41.7	104	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Selenium	ug/L	40	38.5	96	80-120	
Thallium	ug/L	40	40.6	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3115553 3115554

Parameter	Units	50316387001 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	42.7	42.6	106	106	75-125	0	20	
Arsenic	ug/L	1.8	40	40	39.7	39.2	95	93	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	37.4	37.1	93	93	75-125	1	20	CL
Cobalt	ug/L	<1.0	40	40	40.1	39.4	98	96	75-125	2	20	
Selenium	ug/L	<1.0	40	40	38.2	38.5	94	95	75-125	1	20	
Thallium	ug/L	<2.0	40	40	41.7	40.9	104	102	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 676571
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316352002, 50316352003

METHOD BLANK: 3115093 Matrix: Water
Associated Lab Samples: 50316352002, 50316352003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/17/22 13:44	

LABORATORY CONTROL SAMPLE: 3115094

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

SAMPLE DUPLICATE: 3115095

Parameter	Units	50316332001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	337	360	7	10	

SAMPLE DUPLICATE: 3115096

Parameter	Units	50316332002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	834	870	4	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 676817 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50316352001, 50316352004, 50316352005

METHOD BLANK: 3116109 Matrix: Water
Associated Lab Samples: 50316352001, 50316352004, 50316352005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/18/22 11:38	

LABORATORY CONTROL SAMPLE: 3116110

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

SAMPLE DUPLICATE: 3116111

Parameter	Units	50316329021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	416	417	0	10	

SAMPLE DUPLICATE: 3116112

Parameter	Units	50316332004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1850	1830	1	10	

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 677075
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: 50316352001, 50316352002, 50316352003

SAMPLE DUPLICATE: 3117406

Parameter	Units	50315449013 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	0	2	H3

SAMPLE DUPLICATE: 3117407

Parameter	Units	50316352003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

QC Batch: 677437
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: 50316352004, 50316352005

SAMPLE DUPLICATE: 3119326

Parameter	Units	50316352004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.4	8.4	0	2	H3

SAMPLE DUPLICATE: 3119327

Parameter	Units	50315564008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	2	H3

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QUALIFIERS

Project: Petersburg Profile 5 Report 1
Pace Project No.: 50316352

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
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 Profile 5 Report 1
Pace Project No.: 50316352

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50316352001	**MW-32D2**	EPA 9056	677934		
50316352002	**MW-33I**	EPA 9056	677934		
50316352003	**MW-33D2**	EPA 9056	677934		
50316352004	**MW-35SS**	EPA 9056	677934		
50316352005	**MW-35D2**	EPA 9056	677934		
50316352001	**MW-32D2**	EPA 3010	677577	EPA 6010	678211
50316352002	**MW-33I**	EPA 3010	677577	EPA 6010	678211
50316352003	**MW-33D2**	EPA 3010	677577	EPA 6010	678211
50316352004	**MW-35SS**	EPA 3010	677577	EPA 6010	678211
50316352005	**MW-35D2**	EPA 3010	677577	EPA 6010	678211
50316352001	**MW-32D2**	EPA 200.2	676694	EPA 6020	676993
50316352002	**MW-33I**	EPA 200.2	676694	EPA 6020	676993
50316352003	**MW-33D2**	EPA 200.2	676694	EPA 6020	676993
50316352004	**MW-35SS**	EPA 200.2	676694	EPA 6020	676993
50316352005	**MW-35D2**	EPA 200.2	676694	EPA 6020	676993
50316352001	**MW-32D2**	SM 2540C	676817		
50316352002	**MW-33I**	SM 2540C	676571		
50316352003	**MW-33D2**	SM 2540C	676571		
50316352004	**MW-35SS**	SM 2540C	676817		
50316352005	**MW-35D2**	SM 2540C	676817		
50316352001	**MW-32D2**	SM 4500-H+B	677075		
50316352002	**MW-33I**	SM 4500-H+B	677075		
50316352003	**MW-33D2**	SM 4500-H+B	677075		
50316352004	**MW-35SS**	SM 4500-H+B	677437		
50316352005	**MW-35D2**	SM 4500-H+B	677437		

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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50316352

50316352

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 5 Report 1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/13

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/~~NO3, NO2 Wet~~	(Cl, F, SO4) IC	Metals, Total*	~~Metals Diss. Field Filtered**~~	~~Rad 226~~	~~Rad 228~~	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	~~Sulfide~~	~~Phosphate~~	Residual Chlorine (Y/N)	
1	~~MW-30D1~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
2	~~MW-30D2~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
3	~~MW-31D2~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
4	~~MW-32I~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
5	~~MW-32D1~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
6	MW-32D2	WT	G			5/11/22	933		3 11	2 ~~0~~	~~0~~	1 4							X	X	X	~~X~~	X	X	X	X	X	X	001
7	MW-33I	WT	G			5/10/22	1445		3 11	2 ~~0~~	~~0~~	1 4							X	X	X	~~X~~	X	X	X	X	X	X	002
8	MW-33D2	WT	G			5/10/22	1550		3 11	2 ~~0~~	~~0~~	1 4							X	X	X	~~X~~	X	X	X	X	X	X	003
9	~~MW-34A~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
10	~~MW-34D1~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
11	~~MW-34S~~	~~WT~~							11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	
12	~~MW-34D2~~	~~WT~~							11	3	3	4		4					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)	Colton Palmer	5/12/22	1230		5/12/22	1230				
6020 (Be, Co, As, Se, Sb, Tl)		5/12/22	~~1230~~	Daniel Pearson/Pace	5/12/22	1345	0.6	Y	N	Y
** Dissolved FF 6010 (Mo, Mn, Li); 6020 As			1345							
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: 5/11/22				

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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 5 Report 1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/13

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)	
13	~~MW-35D1~~	~~WT~~							~~11~~	3	3	4		1					~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~		
14	MW-35SS	WT	G			~~5/11/22~~	1221		~~3~~	~~2~~		~~1~~		1					X	X	X	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~		004
15	MW-35D2	WT	G			~~5/11/22~~	1145		~~3~~	~~2~~		~~1~~		1					X	X	X	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~		005
16	~~DUP-5~~	~~WT~~							11	3	3	4		1					~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~		
17	~~FIELD BLANK~~	~~WT~~							9	3	2	3		1					~~x~~	~~x~~	~~x~~		~~x~~	~~x~~	~~x~~	~~x~~		~~x~~	~~x~~		
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)		5/12/22	1230		5/12/22	1236				
6020 (Be, Co, As, Se, Sb, Tl)		5/12/22	1345	Daniel Lewson/Pace	5/12/22	1345	0.6	Y	N	Y
** Dissolved FF 6010 (Mo, Mn, Li): 6020 As										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Colton Palmer		
SIGNATURE of SAMPLER:		DATE Signed:	5/11/22

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: DMP 5/12/22 15:12

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°C | | | |
(Initial/Corrected) **RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)**

5. **Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other _____ DMP 5/12/22

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): Not Listed		✓	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:

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																		2	1									WT	✓		
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									WT	✓		
3																		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 / 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

June 03, 2022

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

RE: Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Dear Mr. Duncan:

Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 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. Mark Breting, ATC Group Services
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 Landfill N&E Wells
Pace Project No.: 50317279

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 Landfill N&E Wells
Pace Project No.: 50317279

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50317279001	**MW-32I**	Water	05/24/22 10:25	05/24/22 15:00
50317279002	**MW-32D2**	Water	05/24/22 10:43	05/24/22 15:00
50317279003	**MW-33I**	Water	05/24/22 11:08	05/24/22 15:00
50317279004	**MW-33D2**	Water	05/24/22 11:28	05/24/22 15:00
50317279005	**MW-35SS**	Water	05/24/22 12:10	05/24/22 15:00
50317279006	**MW-35D2**	Water	05/24/22 11:56	05/24/22 15:00

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

SAMPLE ANALYTE COUNT

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50317279001	**MW-32I**	EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
50317279002	**MW-32D2**	EPA 9056	BK1	3
		EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
		SM 2540C	BSW	1
		SM 4500-H+B	TRK	1
50317279003	**MW-33I**	EPA 9056	BK1	3
		EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
		SM 2540C	BSW	1
		SM 4500-H+B	TRK	1
50317279004	**MW-33D2**	EPA 9056	BK1	3
		EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
		SM 2540C	BSW	1
		SM 4500-H+B	TRK	1
50317279005	**MW-35SS**	EPA 9056	BK1	3
		EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
		SM 2540C	BSW	1
		SM 4500-H+B	TRK	1
50317279006	**MW-35D2**	EPA 9056	BK1	3
		EPA 6010	JPK	3
		EPA 6020	DMT	11
		EPA 7470	EAE	1
		SM 2540C	BSW	1
		SM 4500-H+B	TRK	1

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: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50317279001	**MW-32I**					
EPA 6010	Boron	897	ug/L	100	05/30/22 02:32	
EPA 6010	Calcium	222000	ug/L	2000	05/30/22 02:45	
EPA 6020	Arsenic	8.7	ug/L	1.0	05/27/22 13:06	
EPA 6020	Barium	86.9	ug/L	1.0	05/27/22 13:06	
EPA 6020	Beryllium	0.86	ug/L	0.20	05/27/22 13:06	
EPA 6020	Cadmium	0.48	ug/L	0.20	05/27/22 13:06	
EPA 6020	Chromium	20.4	ug/L	2.0	05/27/22 13:06	
EPA 6020	Cobalt	4.7	ug/L	1.0	05/27/22 13:06	
EPA 6020	Lead	14.4	ug/L	1.0	05/27/22 13:06	
EPA 6020	Molybdenum	2.6	ug/L	1.0	05/27/22 13:06	
EPA 6020	Selenium	1.1	ug/L	1.0	05/27/22 13:06	
50317279002	**MW-32D2**					
EPA 9056	Chloride	11.5	mg/L	0.25	06/02/22 20:10	
EPA 9056	Fluoride	1.7	mg/L	0.10	06/02/22 20:10	
EPA 9056	Sulfate	6.5	mg/L	0.25	06/02/22 20:10	
EPA 6010	Boron	889	ug/L	100	05/30/22 02:35	
EPA 6010	Calcium	5790	ug/L	1000	05/30/22 02:35	
EPA 6020	Arsenic	1.5	ug/L	1.0	05/27/22 13:10	
EPA 6020	Barium	106	ug/L	1.0	05/27/22 13:10	
EPA 6020	Beryllium	0.21	ug/L	0.20	05/27/22 13:10	
EPA 6020	Chromium	5.6	ug/L	2.0	05/27/22 13:10	
EPA 6020	Cobalt	1.6	ug/L	1.0	05/27/22 13:10	
EPA 6020	Lead	1.8	ug/L	1.0	05/27/22 13:10	
EPA 6020	Molybdenum	9.0	ug/L	1.0	05/27/22 13:10	
SM 2540C	Total Dissolved Solids	336	mg/L	10.0	05/28/22 14:12	
SM 4500-H+B	pH at 25 Degrees C	8.7	Std. Units	0.10	05/25/22 11:12	H3
50317279003	**MW-33I**					
EPA 9056	Chloride	116	mg/L	2.5	06/02/22 21:06	
EPA 9056	Fluoride	0.13	mg/L	0.10	06/02/22 20:47	
EPA 9056	Sulfate	1820	mg/L	25.0	06/02/22 21:27	
EPA 6010	Boron	2000	ug/L	100	05/30/22 02:37	
EPA 6010	Calcium	452000	ug/L	5000	05/30/22 02:51	
EPA 6010	Lithium	252	ug/L	20.0	05/30/22 02:37	
EPA 6020	Arsenic	5.2	ug/L	1.0	05/27/22 13:14	
EPA 6020	Barium	63.5	ug/L	1.0	05/27/22 13:14	
EPA 6020	Cobalt	3.1	ug/L	1.0	05/27/22 13:14	
EPA 6020	Lead	1.5	ug/L	1.0	05/27/22 13:14	
EPA 6020	Molybdenum	17.4	ug/L	1.0	05/27/22 13:14	
SM 2540C	Total Dissolved Solids	2770	mg/L	40.0	05/28/22 14:12	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/25/22 11:13	H3
50317279004	**MW-33D2**					
EPA 9056	Chloride	46.8	mg/L	2.5	06/02/22 22:04	
EPA 9056	Fluoride	3.6	mg/L	0.10	06/02/22 21:46	
EPA 9056	Sulfate	4.3	mg/L	0.25	06/02/22 21:46	
EPA 6010	Boron	1080	ug/L	100	05/30/22 02:39	
EPA 6010	Calcium	3540	ug/L	1000	05/30/22 02:39	

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50317279004	**MW-33D2**					
EPA 6010	Lithium	26.0	ug/L	20.0	05/30/22 02:39	
EPA 6020	Arsenic	1.8	ug/L	1.0	05/27/22 13:18	
EPA 6020	Barium	127	ug/L	1.0	05/27/22 13:18	
EPA 6020	Chromium	3.6	ug/L	2.0	05/27/22 13:18	
EPA 6020	Cobalt	1.4	ug/L	1.0	05/27/22 13:18	
EPA 6020	Lead	2.0	ug/L	1.0	05/27/22 13:18	
EPA 6020	Molybdenum	14.8	ug/L	1.0	05/27/22 13:18	
SM 2540C	Total Dissolved Solids	648	mg/L	10.0	05/28/22 14:13	
SM 4500-H+B	pH at 25 Degrees C	8.7	Std. Units	0.10	05/25/22 11:14	H3
50317279005	**MW-35SS**					
EPA 9056	Chloride	12.4	mg/L	0.25	06/02/22 22:23	
EPA 9056	Fluoride	0.38	mg/L	0.10	06/02/22 22:23	
EPA 9056	Sulfate	100	mg/L	2.5	06/03/22 10:59	
EPA 6010	Boron	654	ug/L	100	05/30/22 02:41	
EPA 6010	Calcium	61900	ug/L	1000	05/30/22 02:41	
EPA 6010	Lithium	36.6	ug/L	20.0	05/30/22 02:41	
EPA 6020	Antimony	1.0	ug/L	1.0	05/27/22 13:30	
EPA 6020	Barium	170	ug/L	1.0	05/27/22 13:30	
EPA 6020	Cadmium	0.22	ug/L	0.20	05/27/22 13:30	
EPA 6020	Chromium	2.3	ug/L	2.0	05/27/22 13:30	
EPA 6020	Cobalt	11.6	ug/L	1.0	05/27/22 13:30	
EPA 6020	Molybdenum	28.9	ug/L	1.0	05/27/22 13:30	
EPA 6020	Selenium	3.1	ug/L	1.0	05/27/22 13:30	
SM 2540C	Total Dissolved Solids	553	mg/L	10.0	05/28/22 14:13	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/25/22 11:14	H3
50317279006	**MW-35D2**					
EPA 9056	Chloride	10.3	mg/L	0.25	06/02/22 23:21	
EPA 9056	Fluoride	2.1	mg/L	0.10	06/02/22 23:21	
EPA 9056	Sulfate	11.7	mg/L	0.25	06/02/22 23:21	
EPA 6010	Boron	1200	ug/L	100	05/30/22 02:43	
EPA 6010	Calcium	6200	ug/L	1000	05/30/22 02:43	
EPA 6010	Lithium	21.9	ug/L	20.0	05/30/22 02:43	
EPA 6020	Arsenic	1.7	ug/L	1.0	05/27/22 13:34	
EPA 6020	Barium	139	ug/L	1.0	05/27/22 13:34	
EPA 6020	Chromium	3.4	ug/L	2.0	05/27/22 13:34	
EPA 6020	Cobalt	1.1	ug/L	1.0	05/27/22 13:34	
EPA 6020	Lead	1.2	ug/L	1.0	05/27/22 13:34	
EPA 6020	Molybdenum	22.1	ug/L	1.0	05/27/22 13:34	
SM 2540C	Total Dissolved Solids	413	mg/L	10.0	05/28/22 14:23	
SM 4500-H+B	pH at 25 Degrees C	8.8	Std. Units	0.10	05/25/22 11:15	H3

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-32I **Lab ID: 50317279001** Collected: 05/24/22 10:25 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**897**	ug/L	100	1	05/27/22 14:13	05/30/22 02:32	7440-42-8	
Calcium	**222000**	ug/L	2000	2	05/27/22 14:13	05/30/22 02:45	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:32	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	05/26/22 14:10	05/27/22 13:06	7440-36-0	
Arsenic	**8.7**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7440-38-2	
Barium	**86.9**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7440-39-3	
Beryllium	**0.86**	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:06	7440-41-7	
Cadmium	**0.48**	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:06	7440-43-9	
Chromium	**20.4**	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:06	7440-47-3	
Cobalt	**4.7**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7440-48-4	
Lead	**14.4**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7439-92-1	
Molybdenum	**2.6**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7439-98-7	
Selenium	**1.1**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:37	7439-97-6	

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-32D2 **Lab ID: 50317279002** Collected: 05/24/22 10:43 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis							
Chloride	**11.5**	mg/L	0.25	1		06/02/22 20:10	16887-00-6	
Fluoride	**1.7**	mg/L	0.10	1		06/02/22 20:10	16984-48-8	
Sulfate	**6.5**	mg/L	0.25	1		06/02/22 20:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Boron	**889**	ug/L	100	1	05/27/22 14:13	05/30/22 02:35	7440-42-8	
Calcium	**5790**	ug/L	1000	1	05/27/22 14:13	05/30/22 02:35	7440-70-2	
Lithium	ND	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:35	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	05/26/22 14:10	05/27/22 13:10	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7440-38-2	
Barium	**106**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7440-39-3	
Beryllium	**0.21**	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:10	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:10	7440-43-9	
Chromium	**5.6**	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:10	7440-47-3	
Cobalt	**1.6**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7440-48-4	
Lead	**1.8**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7439-92-1	
Molybdenum	**9.0**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**336**	mg/L	10.0	1		05/28/22 14:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.7**	Std. Units	0.10	1		05/25/22 11:12		H3

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-33I **Lab ID: 50317279003** Collected: 05/24/22 11:08 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**116**	mg/L	2.5	10		06/02/22 21:06	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	1		06/02/22 20:47	16984-48-8	
Sulfate	**1820**	mg/L	25.0	100		06/02/22 21:27	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**2000**	ug/L	100	1	05/27/22 14:13	05/30/22 02:37	7440-42-8	
Calcium	**452000**	ug/L	5000	5	05/27/22 14:13	05/30/22 02:51	7440-70-2	
Lithium	**252**	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:37	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	05/26/22 14:10	05/27/22 13:14	7440-36-0	
Arsenic	**5.2**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7440-38-2	
Barium	**63.5**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:14	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:14	7440-43-9	
Chromium	ND	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:14	7440-47-3	
Cobalt	**3.1**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7440-48-4	
Lead	**1.5**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7439-92-1	
Molybdenum	**17.4**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:49	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**2770**	mg/L	40.0	1		05/28/22 14:12		
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		05/25/22 11:13		H3

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-33D2 **Lab ID: 50317279004** Collected: 05/24/22 11:28 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**46.8**	mg/L	2.5	10		06/02/22 22:04	16887-00-6	
Fluoride	**3.6**	mg/L	0.10	1		06/02/22 21:46	16984-48-8	
Sulfate	**4.3**	mg/L	0.25	1		06/02/22 21:46	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1080**	ug/L	100	1	05/27/22 14:13	05/30/22 02:39	7440-42-8	
Calcium	**3540**	ug/L	1000	1	05/27/22 14:13	05/30/22 02:39	7440-70-2	
Lithium	**26.0**	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:39	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	05/26/22 14:10	05/27/22 13:18	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7440-38-2	
Barium	**127**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:18	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:18	7440-43-9	
Chromium	**3.6**	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:18	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7440-48-4	
Lead	**2.0**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7439-92-1	
Molybdenum	**14.8**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**648**	mg/L	10.0	1		05/28/22 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.7**	Std. Units	0.10	1		05/25/22 11:14		H3

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-35SS **Lab ID: 50317279005** Collected: 05/24/22 12:10 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**12.4**	mg/L	0.25	1		06/02/22 22:23	16887-00-6	
Fluoride	**0.38**	mg/L	0.10	1		06/02/22 22:23	16984-48-8	
Sulfate	**100**	mg/L	2.5	10		06/03/22 10:59	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**654**	ug/L	100	1	05/27/22 14:13	05/30/22 02:41	7440-42-8	
Calcium	**61900**	ug/L	1000	1	05/27/22 14:13	05/30/22 02:41	7440-70-2	
Lithium	**36.6**	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:41	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2							
	Pace Analytical Services - Indianapolis							
Antimony	**1.0**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7440-36-0	
Arsenic	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7440-38-2	
Barium	**170**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:30	7440-41-7	
Cadmium	**0.22**	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:30	7440-43-9	
Chromium	**2.3**	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:30	7440-47-3	
Cobalt	**11.6**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7440-48-4	
Lead	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7439-92-1	
Molybdenum	**28.9**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7439-98-7	
Selenium	**3.1**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:54	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**553**	mg/L	10.0	1		05/28/22 14:13		
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		05/25/22 11:14		H3

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ANALYTICAL RESULTS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Sample: MW-35D2 **Lab ID: 50317279006** Collected: 05/24/22 11:56 Received: 05/24/22 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**10.3**	mg/L	0.25	1		06/02/22 23:21	16887-00-6	
Fluoride	**2.1**	mg/L	0.10	1		06/02/22 23:21	16984-48-8	
Sulfate	**11.7**	mg/L	0.25	1		06/02/22 23:21	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Boron	**1200**	ug/L	100	1	05/27/22 14:13	05/30/22 02:43	7440-42-8	
Calcium	**6200**	ug/L	1000	1	05/27/22 14:13	05/30/22 02:43	7440-70-2	
Lithium	**21.9**	ug/L	20.0	1	05/27/22 14:13	05/30/22 02:43	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	05/26/22 14:10	05/27/22 13:34	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7440-38-2	
Barium	**139**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7440-39-3	
Beryllium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:34	7440-41-7	
Cadmium	ND	ug/L	0.20	1	05/26/22 14:10	05/27/22 13:34	7440-43-9	
Chromium	**3.4**	ug/L	2.0	1	05/26/22 14:10	05/27/22 13:34	7440-47-3	
Cobalt	**1.1**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7440-48-4	
Lead	**1.2**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7439-92-1	
Molybdenum	**22.1**	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7439-98-7	
Selenium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7782-49-2	
Thallium	ND	ug/L	1.0	1	05/26/22 14:10	05/27/22 13:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Pace Analytical Services - Indianapolis							
Mercury	ND	ug/L	2.0	1	05/27/22 08:53	05/29/22 18:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**413**	mg/L	10.0	1		05/28/22 14:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Indianapolis							
pH at 25 Degrees C	**8.8**	Std. Units	0.10	1		05/25/22 11:15		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: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 679243
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

METHOD BLANK: 3126863 Matrix: Water
Associated Lab Samples: 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	06/02/22 19:30	
Fluoride	mg/L	ND	0.10	06/02/22 19:30	
Sulfate	mg/L	ND	0.25	06/02/22 19:30	

LABORATORY CONTROL SAMPLE: 3126864

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	2.6	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3126865 3126866

Parameter	Units	50317002002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	62.2	12.5	12.5	75.4	75.3	106	105	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.56	0.55	96	96	80-120	0	15	
Sulfate	mg/L	27.0	25	25	50.7	50.7	95	95	80-120	0	15	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678533 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

METHOD BLANK: 3123727 Matrix: Water
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	05/29/22 17:44	

LABORATORY CONTROL SAMPLE: 3123728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123729 3123730

Parameter	Units	50317166001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.091	5	5	5.0	5.3	98	104	75-125	6	20	

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QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678684
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

METHOD BLANK: 3124601 Matrix: Water
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	05/30/22 02:02	
Calcium	ug/L	ND	1000	05/30/22 02:02	
Lithium	ug/L	ND	20.0	05/30/22 02:02	

LABORATORY CONTROL SAMPLE: 3124602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	924	92	80-120	
Calcium	ug/L	10000	9750	97	80-120	
Lithium	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124603 3124604

Parameter	Units	50317002002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	1000	1000	1030	1050	97	99	75-125	2	20	
Calcium	ug/L	105000	10000	10000	110000	112000	44	70	75-125	2	20	P6
Lithium	ug/L	ND	1000	1000	1070	1070	106	106	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678479
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

METHOD BLANK: 3123507 Matrix: Water
Associated Lab Samples: 50317279001, 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	05/27/22 11:13	
Arsenic	ug/L	ND	1.0	05/27/22 11:13	
Barium	ug/L	ND	1.0	05/27/22 11:13	
Beryllium	ug/L	ND	0.20	05/27/22 11:13	
Cadmium	ug/L	ND	0.20	05/27/22 11:13	
Chromium	ug/L	ND	2.0	05/27/22 11:13	
Cobalt	ug/L	ND	1.0	05/27/22 11:13	
Lead	ug/L	ND	1.0	05/27/22 11:13	
Molybdenum	ug/L	ND	1.0	05/27/22 11:13	
Selenium	ug/L	ND	1.0	05/27/22 11:13	
Thallium	ug/L	ND	1.0	05/27/22 11:13	

LABORATORY CONTROL SAMPLE: 3123508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.4	103	80-120	
Arsenic	ug/L	40	38.0	95	80-120	
Barium	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	39.0	98	80-120	
Cadmium	ug/L	40	40.2	100	80-120	
Chromium	ug/L	40	41.9	105	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Lead	ug/L	40	40.7	102	80-120	
Molybdenum	ug/L	40	40.5	101	80-120	
Selenium	ug/L	40	39.7	99	80-120	
Thallium	ug/L	40	40.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123509 3123510

Parameter	Units	50317166001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	1.6	40	40	42.9	43.4	103	105	75-125	1	20	
Arsenic	ug/L	3.6	40	40	38.6	38.4	88	87	75-125	0	20	
Barium	ug/L	54.8	40	40	96.2	96.0	104	103	75-125	0	20	
Beryllium	ug/L	0.10J	40	40	43.5	44.1	109	110	75-125	1	20	
Cadmium	ug/L	0.089J	40	40	37.6	37.9	94	94	75-125	1	20	
Chromium	ug/L	5.3	40	40	45.0	44.3	99	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123509 3123510

Parameter	Units	50317166001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	4.5	40	40	41.5	42.2	93	94	75-125	2	20	
Lead	ug/L	5.9	40	40	47.2	47.5	103	104	75-125	1	20	
Molybdenum	ug/L	103	40	40	145	144	103	101	75-125	1	20	
Selenium	ug/L	1.4	40	40	38.7	39.5	93	95	75-125	2	20	
Thallium	ug/L	0.14J	40	40	41.7	42.0	104	105	75-125	1	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678933 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279002, 50317279003, 50317279004, 50317279005

METHOD BLANK: 3126084 Matrix: Water
Associated Lab Samples: 50317279002, 50317279003, 50317279004, 50317279005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/28/22 14:05	

LABORATORY CONTROL SAMPLE: 3126085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	288	96	80-120	

SAMPLE DUPLICATE: 3126086

Parameter	Units	50317530001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	732000 ug/L	756	3	10	

SAMPLE DUPLICATE: 3126087

Parameter	Units	50317530014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	506000 ug/L	506	0	10	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678934
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50317279006

METHOD BLANK: 3126088 Matrix: Water
Associated Lab Samples: 50317279006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/28/22 14:22	

LABORATORY CONTROL SAMPLE: 3126089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	275	92	80-120	

SAMPLE DUPLICATE: 3126090

Parameter	Units	50317279006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	413	422	2	10	

SAMPLE DUPLICATE: 3126091

Parameter	Units	50317331001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	228	229	0	10	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

QC Batch: 678255
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: 50317279002, 50317279003, 50317279004, 50317279005, 50317279006

SAMPLE DUPLICATE: 3122570

Parameter	Units	50317273001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	2	H3

SAMPLE DUPLICATE: 3122571

Parameter	Units	50317016001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.1	6.1	0	2	H3

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Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

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.
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: Petersburg Landfill N&E Wells
Pace Project No.: 50317279

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50317279002	**MW-32D2**	EPA 9056	679243		
50317279003	**MW-33I**	EPA 9056	679243		
50317279004	**MW-33D2**	EPA 9056	679243		
50317279005	**MW-35SS**	EPA 9056	679243		
50317279006	**MW-35D2**	EPA 9056	679243		
50317279001	**MW-32I**	EPA 3010	678684	EPA 6010	679043
50317279002	**MW-32D2**	EPA 3010	678684	EPA 6010	679043
50317279003	**MW-33I**	EPA 3010	678684	EPA 6010	679043
50317279004	**MW-33D2**	EPA 3010	678684	EPA 6010	679043
50317279005	**MW-35SS**	EPA 3010	678684	EPA 6010	679043
50317279006	**MW-35D2**	EPA 3010	678684	EPA 6010	679043
50317279001	**MW-32I**	EPA 200.2	678479	EPA 6020	678724
50317279002	**MW-32D2**	EPA 200.2	678479	EPA 6020	678724
50317279003	**MW-33I**	EPA 200.2	678479	EPA 6020	678724
50317279004	**MW-33D2**	EPA 200.2	678479	EPA 6020	678724
50317279005	**MW-35SS**	EPA 200.2	678479	EPA 6020	678724
50317279006	**MW-35D2**	EPA 200.2	678479	EPA 6020	678724
50317279001	**MW-32I**	EPA 7470	678533	EPA 7470	679023
50317279002	**MW-32D2**	EPA 7470	678533	EPA 7470	679023
50317279003	**MW-33I**	EPA 7470	678533	EPA 7470	679023
50317279004	**MW-33D2**	EPA 7470	678533	EPA 7470	679023
50317279005	**MW-35SS**	EPA 7470	678533	EPA 7470	679023
50317279006	**MW-35D2**	EPA 7470	678533	EPA 7470	679023
50317279002	**MW-32D2**	SM 2540C	678933		
50317279003	**MW-33I**	SM 2540C	678933		
50317279004	**MW-33D2**	SM 2540C	678933		
50317279005	**MW-35SS**	SM 2540C	678933		
50317279006	**MW-35D2**	SM 2540C	678934		
50317279002	**MW-32D2**	SM 4500-H+B	678255		
50317279003	**MW-33I**	SM 4500-H+B	678255		
50317279004	**MW-33D2**	SM 4500-H+B	678255		
50317279005	**MW-35SS**	SM 4500-H+B	678255		
50317279006	**MW-35D2**	SM 4500-H+B	678255		

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WO#:50317279

50317279

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Required Project Information:		Section C Invoice Information:	
Company: Atlas Indianapolis	Report To: Rob Duncan	Attention: Accounts Payable	
Address: 7988 Centerpoint Drive	Copy To:	Company Name: Atlas Indianapolis	
Indianapolis, IN 46256		Address:	Regulatory Agency
Email: robert.duncan@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)649-2936 Fax:	Project Name: Petersburg Landfill N&E Wells	Pace Project Manager: hayden.putt@pacelabs.com,	State / Location
Requested Due Date:	Project #:	Pace Profile #: 8427/4	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) Analyses Test Y/N: Metals, Total	TDS 2540C/pH 4500	(Cl, Fl, SO4) by 9056 IC	Residual Chlorine (Y/N)	
1	MW-32I	WT	G			5/24/22	1025		1	2		1						X	X	X		001
2	MW-32D2	WT	G				1043		3	2		1						X	X	X		002
3	MW-33I	WT	G				1108		3	2		1						X	X	X		003
4	MW-33D2	WT	G				1128		3	2		1						X	X	X		004
5	MW-35SS	WT	G				1210		3	2		1						X	X	X		005
6	MW-35D2	WT	G				1156		3	2		1						X	X	X		006
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	Colton Palmer	5/24/22	1500	K. Clemmons	5-24-22	15:00	0.8	y	y	y
7470 Hg										
Only 1 HNO_3 collected for MW-32I for Total metals										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colton Palmer

SIGNATURE of SAMPLER: Colton Palmer DATE Signed: 5/24/22

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: BC 5-24-22 15:21

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(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
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:		✓
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	✓
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?			✓
Headspace in VOA Vials (>6mm): See Containter Count form for details			No VOA Vials Sent ✓
Trip Blank Present?		✓	
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									WT	✓		
2																		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	

ATTACHMENT C

PREDICTION LIMITS DOCUMENTATION

NOVEMBER 2021

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-1	09/28/2016	ND	0.0500	5.0000	**
Antimony, total	ug/L	MW-1	10/19/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-1	11/09/2016	ND	50.0000	5.0000	**
Antimony, total	ug/L	MW-1	12/12/2016	ND	5.0000		
Antimony, total	ug/L	MW-1	02/05/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-1	03/24/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-1	05/16/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-1	06/20/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-1	08/08/2017	ND	6.0000	5.0000	**
Antimony, total	ug/L	MW-1	05/10/2018	ND	5.0000		
Antimony, total	ug/L	MW-1	09/12/2018	ND	1.4000	5.0000	**
Antimony, total	ug/L	MW-1	05/17/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-1	11/06/2019	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-1	05/06/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-1	11/03/2020	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-1	05/05/2021	ND	1.0000	5.0000	**
Antimony, total	ug/L	MW-1	11/01/2021	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	09/28/2016		3.9000		
Arsenic, total	ug/L	MW-1	10/19/2016	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	11/09/2016		5.1000		
Arsenic, total	ug/L	MW-1	12/12/2016	ND	5.0000		
Arsenic, total	ug/L	MW-1	02/05/2017	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	03/24/2017	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	05/16/2017	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	06/20/2017	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	08/08/2017	ND	10.0000	5.0000	**
Arsenic, total	ug/L	MW-1	05/10/2018	ND	5.0000		
Arsenic, total	ug/L	MW-1	09/12/2018	ND	1.2000	5.0000	**
Arsenic, total	ug/L	MW-1	05/17/2019	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	11/06/2019	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	05/06/2020	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	11/03/2020	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	05/05/2021	ND	1.0000	5.0000	**
Arsenic, total	ug/L	MW-1	11/01/2021	ND	1.0000	5.0000	**
Barium, total	ug/L	MW-1	09/28/2016		43.0000		
Barium, total	ug/L	MW-1	10/19/2016		51.0000		
Barium, total	ug/L	MW-1	11/09/2016		59.0000		
Barium, total	ug/L	MW-1	12/12/2016		56.0000		
Barium, total	ug/L	MW-1	02/05/2017		52.0000		
Barium, total	ug/L	MW-1	03/24/2017		50.0000		
Barium, total	ug/L	MW-1	05/16/2017		48.0000		
Barium, total	ug/L	MW-1	06/20/2017		49.0000		
Barium, total	ug/L	MW-1	08/08/2017		47.0000		
Barium, total	ug/L	MW-1	05/10/2018		47.0000		
Barium, total	ug/L	MW-1	09/12/2018		49.0000		
Barium, total	ug/L	MW-1	05/17/2019		29.4000		
Barium, total	ug/L	MW-1	11/06/2019		41.9000		
Barium, total	ug/L	MW-1	05/06/2020		42.6000		
Barium, total	ug/L	MW-1	11/03/2020		41.3000		
Barium, total	ug/L	MW-1	05/05/2021		52.2000		
Barium, total	ug/L	MW-1	11/01/2021		58.4000		
Beryllium, total	ug/L	MW-1	09/28/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-1	10/19/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-1	11/09/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-1	12/12/2016	ND	10.0000	1.0000	**
Beryllium, total	ug/L	MW-1	02/05/2017	ND	4.0000	1.0000	**
Beryllium, total	ug/L	MW-1	03/24/2017	ND	1.0000		
Beryllium, total	ug/L	MW-1	05/16/2017	ND	1.0000		
Beryllium, total	ug/L	MW-1	06/20/2017	ND	1.0000		
Beryllium, total	ug/L	MW-1	08/08/2017	ND	1.0000		
Beryllium, total	ug/L	MW-1	05/10/2018	ND	5.0000	1.0000	**
Beryllium, total	ug/L	MW-1	09/12/2018	ND	0.6500	1.0000	**
Beryllium, total	ug/L	MW-1	05/17/2019	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-1	11/06/2019	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	ug/L	MW-1	05/06/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-1	11/03/2020	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-1	05/05/2021	ND	0.2000	1.0000	**
Beryllium, total	ug/L	MW-1	11/01/2021	ND	0.2000	1.0000	**
Cadmium, total	ug/L	MW-1	09/28/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-1	10/19/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-1	11/09/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-1	12/12/2016	ND	10.0000	2.0000	**
Cadmium, total	ug/L	MW-1	02/05/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-1	03/24/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-1	05/16/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-1	06/20/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-1	08/08/2017	ND	1.0000	2.0000	**
Cadmium, total	ug/L	MW-1	05/10/2018	ND	5.0000	2.0000	**
Cadmium, total	ug/L	MW-1	09/12/2018	ND	0.5500	2.0000	**
Cadmium, total	ug/L	MW-1	05/17/2019	ND	2.0000		
Cadmium, total	ug/L	MW-1	11/06/2019	ND	2.0000		
Cadmium, total	ug/L	MW-1	05/06/2020	ND	2.0000		
Cadmium, total	ug/L	MW-1	11/03/2020	ND	2.0000		
Cadmium, total	ug/L	MW-1	05/05/2021	ND	2.0000		
Cadmium, total	ug/L	MW-1	11/01/2021	ND	2.0000		
Chromium, total	ug/L	MW-1	09/28/2016	ND	10.0000		
Chromium, total	ug/L	MW-1	10/19/2016	ND	10.0000		
Chromium, total	ug/L	MW-1	11/09/2016	ND	10.0000		
Chromium, total	ug/L	MW-1	12/12/2016	ND	10.0000		
Chromium, total	ug/L	MW-1	02/05/2017	ND	10.0000		
Chromium, total	ug/L	MW-1	03/24/2017	ND	10.0000		
Chromium, total	ug/L	MW-1	05/16/2017	ND	10.0000		
Chromium, total	ug/L	MW-1	06/20/2017	ND	10.0000		
Chromium, total	ug/L	MW-1	08/08/2017	ND	10.0000		
Chromium, total	ug/L	MW-1	05/10/2018	ND	10.0000		
Chromium, total	ug/L	MW-1	05/17/2019	ND	10.0000		
Chromium, total	ug/L	MW-1	05/06/2020	ND	10.0000		
Chromium, total	ug/L	MW-1	05/05/2021	ND	10.0000		
Chromium, total	ug/L	MW-1	11/01/2021	ND	10.0000		
Cobalt, total	ug/L	MW-1	09/28/2016	ND	20.0000		
Cobalt, total	ug/L	MW-1	10/19/2016	ND	20.0000		
Cobalt, total	ug/L	MW-1	11/09/2016	ND	20.0000		
Cobalt, total	ug/L	MW-1	12/12/2016	ND	20.0000		
Cobalt, total	ug/L	MW-1	02/05/2017	ND	20.0000		
Cobalt, total	ug/L	MW-1	03/24/2017	ND	20.0000		
Cobalt, total	ug/L	MW-1	05/16/2017	ND	20.0000		
Cobalt, total	ug/L	MW-1	06/20/2017	ND	20.0000		
Cobalt, total	ug/L	MW-1	08/08/2017	ND	20.0000		
Cobalt, total	ug/L	MW-1	05/10/2018	ND	20.0000		
Cobalt, total	ug/L	MW-1	09/12/2018	ND	3.6000	20.0000	**
Cobalt, total	ug/L	MW-1	05/17/2019	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-1	11/06/2019	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-1	05/06/2020	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-1	11/03/2020	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-1	05/05/2021	ND	1.0000	20.0000	**
Cobalt, total	ug/L	MW-1	11/01/2021	ND	1.0000	20.0000	**
Fluoride	mg/L	MW-1	09/28/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-1	10/19/2016	ND	5.0000		
Fluoride	mg/L	MW-1	11/09/2016	ND	0.5000	5.0000	**
Fluoride	mg/L	MW-1	12/12/2016	ND	5.0000		
Fluoride	mg/L	MW-1	02/05/2017	ND	5.0000		
Fluoride	mg/L	MW-1	03/24/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/16/2017	ND	5.0000		
Fluoride	mg/L	MW-1	06/20/2017	ND	5.0000		
Fluoride	mg/L	MW-1	08/08/2017	ND	5.0000		
Fluoride	mg/L	MW-1	05/10/2018	ND	5.0000		
Fluoride	mg/L	MW-1	09/12/2018	ND	0.6000	5.0000	**
Fluoride	mg/L	MW-1	05/17/2019	ND	0.1000	5.0000	**

* - 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	
Fluoride	mg/L	MW-1	11/06/2019		0.1200		
Fluoride	mg/L	MW-1	05/06/2020		0.1300		
Fluoride	mg/L	MW-1	11/03/2020		0.1400		
Fluoride	mg/L	MW-1	05/05/2021		0.1000		
Fluoride	mg/L	MW-1	11/01/2021		0.1100		
Lead, total	ug/L	MW-1	09/28/2016	ND	10.0000		
Lead, total	ug/L	MW-1	10/19/2016	ND	10.0000		
Lead, total	ug/L	MW-1	11/09/2016	ND	10.0000		
Lead, total	ug/L	MW-1	12/12/2016	ND	10.0000		
Lead, total	ug/L	MW-1	02/05/2017	ND	10.0000		
Lead, total	ug/L	MW-1	03/24/2017	ND	10.0000		
Lead, total	ug/L	MW-1	05/16/2017	ND	10.0000		
Lead, total	ug/L	MW-1	06/20/2017	ND	10.0000		
Lead, total	ug/L	MW-1	08/08/2017	ND	10.0000		
Lead, total	ug/L	MW-1	05/10/2018	ND	10.0000		
Lead, total	ug/L	MW-1	05/17/2019	ND	10.0000		
Lead, total	ug/L	MW-1	11/06/2019	ND	10.0000		
Lead, total	ug/L	MW-1	05/06/2020	ND	10.0000		
Lead, total	ug/L	MW-1	11/03/2020	ND	10.0000		
Lead, total	ug/L	MW-1	05/05/2021	ND	10.0000		
Lead, total	ug/L	MW-1	11/01/2021	ND	10.0000		
Lithium, total	ug/L	MW-1	09/28/2016	ND	2.8000	20.0000	**
Lithium, total	ug/L	MW-1	10/19/2016	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	11/09/2016		4.1000		
Lithium, total	ug/L	MW-1	12/12/2016	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	02/05/2017		5.2000		
Lithium, total	ug/L	MW-1	03/24/2017	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	05/16/2017	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	06/20/2017	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	08/08/2017	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	05/10/2018	ND	6.2000	20.0000	**
Lithium, total	ug/L	MW-1	09/12/2018	ND	100.0000	20.0000	**
Lithium, total	ug/L	MW-1	05/17/2019	ND	20.0000		
Lithium, total	ug/L	MW-1	11/06/2019	ND	20.0000		
Lithium, total	ug/L	MW-1	05/06/2020	ND	20.0000		
Lithium, total	ug/L	MW-1	11/03/2020	ND	20.0000		
Lithium, total	ug/L	MW-1	05/05/2021	ND	20.0000		
Lithium, total	ug/L	MW-1	11/01/2021	ND	20.0000		
Mercury, total	ug/L	MW-1	09/28/2016	ND	0.2000		
Mercury, total	ug/L	MW-1	10/19/2016	ND	0.2000		
Mercury, total	ug/L	MW-1	11/09/2016	ND	0.2000		
Mercury, total	ug/L	MW-1	12/12/2016	ND	0.2000		
Mercury, total	ug/L	MW-1	02/05/2017	ND	0.2000		
Mercury, total	ug/L	MW-1	03/24/2017	ND	0.2000		
Mercury, total	ug/L	MW-1	05/16/2017	ND	0.2000		
Mercury, total	ug/L	MW-1	06/20/2017		0.6700		
Mercury, total	ug/L	MW-1	08/08/2017	ND	0.2000		
Mercury, total	ug/L	MW-1	05/10/2018	ND	0.2000		
Mercury, total	ug/L	MW-1	05/17/2019	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-1	05/06/2020	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-1	05/05/2021	ND	2.0000	0.2000	**
Mercury, total	ug/L	MW-1	11/01/2021	ND	2.0000	0.2000	**
Molybdenum, total	ug/L	MW-1	09/28/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-1	10/19/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-1	11/09/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-1	12/12/2016	ND	100.0000		
Molybdenum, total	ug/L	MW-1	02/05/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-1	03/24/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-1	05/16/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-1	06/20/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-1	08/08/2017	ND	100.0000		
Molybdenum, total	ug/L	MW-1	05/10/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-1	09/12/2018	ND	100.0000		
Molybdenum, total	ug/L	MW-1	05/17/2019	ND	10.0000	100.0000	**

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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	
Molybdenum, total	ug/L	MW-1	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-1	05/06/2020	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-1	11/03/2020	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-1	05/05/2021	ND	10.0000	100.0000	**
Molybdenum, total	ug/L	MW-1	11/01/2021	ND	10.0000	100.0000	**
Radium 226/228 Combined	pCi/L	MW-1	09/28/2016		2.6000		
Radium 226/228 Combined	pCi/L	MW-1	10/19/2016		1.3000		
Radium 226/228 Combined	pCi/L	MW-1	11/09/2016		1.2800		
Radium 226/228 Combined	pCi/L	MW-1	12/12/2016		1.1200		
Radium 226/228 Combined	pCi/L	MW-1	02/05/2017		1.8600		
Radium 226/228 Combined	pCi/L	MW-1	03/24/2017	ND	0.5700	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	05/16/2017		0.8200		
Radium 226/228 Combined	pCi/L	MW-1	06/20/2017		4.4600		
Radium 226/228 Combined	pCi/L	MW-1	08/08/2017		1.4300		
Radium 226/228 Combined	pCi/L	MW-1	05/10/2018	ND	1.0000	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	09/12/2018	ND	1.0000	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	05/17/2019	ND	1.7800	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	11/06/2019	ND	1.4700		
Radium 226/228 Combined	pCi/L	MW-1	05/06/2020	ND	1.8200	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	11/03/2020		1.1300		
Radium 226/228 Combined	pCi/L	MW-1	05/05/2021	ND	1.6400	1.4700	**
Radium 226/228 Combined	pCi/L	MW-1	11/01/2021	ND	1.9100	1.4700	**
Selenium, total	ug/L	MW-1	09/28/2016	ND	1.6000		
Selenium, total	ug/L	MW-1	10/19/2016	ND	10.0000	1.6000	**
Selenium, total	ug/L	MW-1	11/09/2016		8.6000		
Selenium, total	ug/L	MW-1	12/12/2016	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	02/05/2017	ND	30.0000	1.6000	**
Selenium, total	ug/L	MW-1	03/24/2017	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	05/16/2017	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	06/20/2017	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	08/08/2017	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	05/10/2018	ND	5.0000	1.6000	**
Selenium, total	ug/L	MW-1	09/12/2018	ND	0.9000	1.6000	**
Selenium, total	ug/L	MW-1	05/17/2019	ND	1.0000	1.6000	**
Selenium, total	ug/L	MW-1	11/06/2019	ND	1.0000	1.6000	**
Selenium, total	ug/L	MW-1	05/06/2020	ND	1.0000	1.6000	**
Selenium, total	ug/L	MW-1	11/03/2020	ND	1.0000	1.6000	**
Selenium, total	ug/L	MW-1	05/05/2021	ND	1.0000	1.6000	**
Selenium, total	ug/L	MW-1	11/01/2021	ND	1.0000	1.6000	**
Thallium, total	ug/L	MW-1	09/28/2016	ND	50.0000	2.0000	**
Thallium, total	ug/L	MW-1	10/19/2016	ND	50.0000	2.0000	**
Thallium, total	ug/L	MW-1	11/09/2016	ND	50.0000	2.0000	**
Thallium, total	ug/L	MW-1	12/12/2016	ND	50.0000	2.0000	**
Thallium, total	ug/L	MW-1	02/05/2017	ND	2.0000		
Thallium, total	ug/L	MW-1	03/24/2017	ND	5.0000	2.0000	**
Thallium, total	ug/L	MW-1	05/16/2017	ND	5.0000	2.0000	**
Thallium, total	ug/L	MW-1	06/20/2017	ND	5.0000	2.0000	**
Thallium, total	ug/L	MW-1	08/08/2017	ND	5.0000	2.0000	**
Thallium, total	ug/L	MW-1	05/10/2018	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	09/12/2018	ND	0.6000	2.0000	**
Thallium, total	ug/L	MW-1	05/17/2019	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	11/06/2019	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	05/06/2020	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	11/03/2020	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	05/05/2021	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-1	11/01/2021	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-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	MW-10	11/02/2021	ND	1.0000		5.0000
Antimony, total	ug/L	MW-11	11/02/2021	ND	1.0000		5.0000
Antimony, total	ug/L	MW-12	11/02/2021	ND	1.0000		5.0000
Antimony, total	ug/L	MW-13	11/02/2021	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	11/01/2021	ND	1.0000		5.0000
Antimony, total	ug/L	MW-4C	11/01/2021	ND	1.0000		5.0000
Arsenic, total	ug/L	MW-10	11/02/2021		102.0000	***	5.1000
Arsenic, total	ug/L	MW-11	11/02/2021		13.5000	*	5.1000
Arsenic, total	ug/L	MW-12	11/02/2021		1.3000		5.1000
Arsenic, total	ug/L	MW-13	11/02/2021	ND	1.0000		5.1000
Arsenic, total	ug/L	MW-2R	11/01/2021		9.9000	***	5.1000
Arsenic, total	ug/L	MW-3	11/01/2021		17.9000	***	5.1000
Arsenic, total	ug/L	MW-4C	11/01/2021	ND	1.0000		5.1000
Barium, total	ug/L	MW-10	11/02/2021		86.2000	***	67.1347
Barium, total	ug/L	MW-11	11/02/2021		100.0000	*	67.1347
Barium, total	ug/L	MW-12	11/02/2021		31.6000		67.1347
Barium, total	ug/L	MW-13	11/02/2021		29.0000		67.1347
Barium, total	ug/L	MW-2R	11/01/2021		54.0000		67.1347
Barium, total	ug/L	MW-3	11/01/2021		38.2000		67.1347
Barium, total	ug/L	MW-4C	11/01/2021		30.7000		67.1347
Beryllium, total	ug/L	MW-10	11/02/2021		0.4200	**	1.0000
Beryllium, total	ug/L	MW-11	11/02/2021		1.0000	*	1.0000
Beryllium, total	ug/L	MW-12	11/02/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-13	11/02/2021	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	11/01/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-4C	11/01/2021	ND	0.2000		1.0000
Cadmium, total	ug/L	MW-10	11/02/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-11	11/02/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-12	11/02/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-13	11/02/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-2R	11/01/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-3	11/01/2021	ND	2.0000		2.0000
Cadmium, total	ug/L	MW-4C	11/01/2021	ND	2.0000		2.0000
Chromium, total	ug/L	MW-10	11/02/2021	ND	10.0000	**	10.0000
Chromium, total	ug/L	MW-11	11/02/2021		23.5000	*	10.0000
Chromium, total	ug/L	MW-12	11/02/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-13	11/02/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-2R	11/01/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-3	11/01/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-4C	11/01/2021	ND	10.0000		10.0000
Cobalt, total	ug/L	MW-10	11/02/2021		2.9000		20.0000
Cobalt, total	ug/L	MW-11	11/02/2021		3.5000		20.0000
Cobalt, total	ug/L	MW-12	11/02/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	MW-13	11/02/2021	ND	1.0000		20.0000
Cobalt, total	ug/L	MW-2R	11/01/2021		2.2000		20.0000
Cobalt, total	ug/L	MW-3	11/01/2021		2.3000		20.0000
Cobalt, total	ug/L	MW-4C	11/01/2021		1.1000		20.0000
Fluoride	mg/L	MW-10	11/02/2021		0.4400		5.0000
Fluoride	mg/L	MW-11	11/02/2021		0.1500		5.0000
Fluoride	mg/L	MW-12	11/02/2021		0.1400		5.0000
Fluoride	mg/L	MW-13	11/02/2021		0.7300		5.0000
Fluoride	mg/L	MW-2R	11/01/2021	ND	0.1000		5.0000
Fluoride	mg/L	MW-3	11/01/2021		0.1000		5.0000
Fluoride	mg/L	MW-4C	11/01/2021		0.1100		5.0000
Lead, total	ug/L	MW-10	11/02/2021	ND	10.0000	**	10.0000
Lead, total	ug/L	MW-11	11/02/2021		12.4000	*	10.0000
Lead, total	ug/L	MW-12	11/02/2021	ND	10.0000		10.0000
Lead, total	ug/L	MW-13	11/02/2021	ND	10.0000		10.0000
Lead, total	ug/L	MW-2R	11/01/2021	ND	10.0000		10.0000
Lead, total	ug/L	MW-3	11/01/2021	ND	10.0000		10.0000

* - 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
Lead, total	ug/L	MW-4C	11/01/2021	ND	10.0000		10.0000
Lithium, total	ug/L	MW-10	11/02/2021		54.8000	***	20.0000
Lithium, total	ug/L	MW-11	11/02/2021	ND	20.0000		20.0000
Lithium, total	ug/L	MW-12	11/02/2021	ND	20.0000		20.0000
Lithium, total	ug/L	MW-13	11/02/2021		498.0000	*	20.0000
Lithium, total	ug/L	MW-2R	11/01/2021		912.0000	***	20.0000
Lithium, total	ug/L	MW-3	11/01/2021		1880.0000	***	20.0000
Lithium, total	ug/L	MW-4C	11/01/2021		334.0000	***	20.0000
Mercury, total	ug/L	MW-10	11/02/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-11	11/02/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-12	11/02/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-13	11/02/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-2R	11/01/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-3	11/01/2021	ND	2.0000		0.6700
Mercury, total	ug/L	MW-4C	11/01/2021	ND	2.0000		0.6700
Molybdenum, total	ug/L	MW-10	11/02/2021		17.8000		100.0000
Molybdenum, total	ug/L	MW-11	11/02/2021	ND	10.0000		100.0000
Molybdenum, total	ug/L	MW-12	11/02/2021	ND	10.0000		100.0000
Molybdenum, total	ug/L	MW-13	11/02/2021		75.0000		100.0000
Molybdenum, total	ug/L	MW-2R	11/01/2021		11.0000		100.0000
Molybdenum, total	ug/L	MW-3	11/01/2021		501.0000	***	100.0000
Molybdenum, total	ug/L	MW-4C	11/01/2021	ND	10.0000		100.0000
Radium 226/228 Combined	pCi/L	MW-10	11/02/2021	ND	1.7100		4.4600
Radium 226/228 Combined	pCi/L	MW-11	11/02/2021	ND	1.4900		4.4600
Radium 226/228 Combined	pCi/L	MW-12	11/02/2021	ND	1.7800		4.4600
Radium 226/228 Combined	pCi/L	MW-13	11/02/2021	ND	1.8800		4.4600
Radium 226/228 Combined	pCi/L	MW-2R	11/01/2021	ND	1.7700		4.4600
Radium 226/228 Combined	pCi/L	MW-3	11/01/2021		1.5900		4.4600
Radium 226/228 Combined	pCi/L	MW-4C	11/01/2021		1.2500		4.4600
Selenium, total	ug/L	MW-10	11/02/2021	ND	1.0000		8.6000
Selenium, total	ug/L	MW-11	11/02/2021		4.7000		8.6000
Selenium, total	ug/L	MW-12	11/02/2021	ND	1.0000		8.6000
Selenium, total	ug/L	MW-13	11/02/2021		8.5000		8.6000
Selenium, total	ug/L	MW-2R	11/01/2021	ND	1.0000		8.6000
Selenium, total	ug/L	MW-3	11/01/2021	ND	1.0000		8.6000
Selenium, total	ug/L	MW-4C	11/01/2021	ND	1.0000		8.6000
Thallium, total	ug/L	MW-10	11/02/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-11	11/02/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-12	11/02/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-13	11/02/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-2R	11/01/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-3	11/01/2021	ND	1.0000		2.0000
Thallium, total	ug/L	MW-4C	11/01/2021	ND	1.0000		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-3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	0	17	0.000	3	122	0.025
Arsenic, total	2	17	0.118	42	122	0.344
Barium, total	17	17	1.000	121	122	0.992
Beryllium, total	0	17	0.000	7	122	0.057
Cadmium, total	0	17	0.000	0	122	0.000
Chromium, total	0	14	0.000	2	101	0.020
Cobalt, total	0	17	0.000	27	122	0.221
Fluoride	5	17	0.294	41	122	0.336
Lead, total	0	16	0.000	5	115	0.043
Lithium, total	2	17	0.118	73	122	0.598
Mercury, total	1	14	0.071	4	101	0.040
Molybdenum, total	0	17	0.000	33	122	0.270
Radium 226/228 Combined	9	17	0.529	76	117	0.650
Selenium, total	1	17	0.059	32	122	0.262
Thallium, total	0	17	0.000	3	122	0.025

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	0	17	0.000	4.713	4.713					2.326
Arsenic, total	2	17	0.118	9.514	9.751					2.326
Barium, total	17	17	1.000	0.505	1.819					2.326
Beryllium, total	0	17	0.000	4.713	4.713					2.326
Cadmium, total	0	17	0.000	4.713	4.713					2.326
Chromium, total	0	14	0.000	4.155	4.155					2.326
Cobalt, total	0	17	0.000	4.713	4.713					2.326
Fluoride	5	17	0.294	5.196	5.072					2.326
Lead, total	0	16	0.000	4.567	4.567					2.326
Lithium, total	2	17	0.118	7.432	7.352					2.326
Mercury, total	1	14	0.071	20.331	20.331					2.326
Molybdenum, total	0	17	0.000	4.713	4.713					2.326
Radium 226/228 Combined	9	17	0.529	4.921	3.111					2.326
Selenium, total	1	17	0.059	21.983	21.983					2.326
Thallium, total	0	17	0.000	4.713	4.713					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
normal	normal
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
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar

* - 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	0	17					5.0000	nonpar	***	0.96
Arsenic, total	ug/L	2	17					5.1000	nonpar		0.96
Barium, total	ug/L	17	17	48.0471	7.1850	0.0100	2.6566	67.1347	normal		
Beryllium, total	ug/L	0	17					1.0000	nonpar	***	0.96
Cadmium, total	ug/L	0	17					2.0000	nonpar	***	0.96
Chromium, total	ug/L	0	14					10.0000	nonpar	***	0.95
Cobalt, total	ug/L	0	17					20.0000	nonpar	***	0.96
Fluoride	mg/L	5	17					5.0000	nonpar	***	0.96
Lead, total	ug/L	0	16					10.0000	nonpar	***	0.96
Lithium, total	ug/L	2	17					20.0000	nonpar	***	0.96
Mercury, total	ug/L	1	14					0.6700	nonpar		0.95
Molybdenum, total	ug/L	0	17					100.0000	nonpar	***	0.96
Radium 226/228 Combined	pCi/L	9	17					4.4600	nonpar		0.96
Selenium, total	ug/L	1	17					8.6000	nonpar		0.96
Thallium, total	ug/L	0	17					2.0000	nonpar	***	0.96

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 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
Arsenic, total	ug/L	MW-10	03/16/2017		48.0000	*	5.1000
Arsenic, total	ug/L	MW-10	03/17/2017		44.0000	*	5.1000
Arsenic, total	ug/L	MW-10	03/24/2017		76.0000	*	5.1000
Arsenic, total	ug/L	MW-10	04/20/2017		60.0000	*	5.1000
Arsenic, total	ug/L	MW-10	04/24/2017		57.0000	*	5.1000
Arsenic, total	ug/L	MW-10	05/25/2017		55.0000	*	5.1000
Arsenic, total	ug/L	MW-10	06/20/2017		49.0000	*	5.1000
Arsenic, total	ug/L	MW-10	07/19/2017		57.0000	*	5.1000
Arsenic, total	ug/L	MW-10	08/08/2017		58.0000	*	5.1000
Arsenic, total	ug/L	MW-10	05/09/2018		47.0000	*	5.1000
Arsenic, total	ug/L	MW-10	09/12/2018		63.0000	*	5.1000
Arsenic, total	ug/L	MW-10	05/17/2019		30.3000	*	5.1000
Arsenic, total	ug/L	MW-10	11/06/2019		127.0000	*	5.1000
Arsenic, total	ug/L	MW-10	05/05/2020		95.4000	*	5.1000
Arsenic, total	ug/L	MW-10	11/04/2020		104.0000	*	5.1000
Arsenic, total	ug/L	MW-10	05/05/2021		96.4000	*	5.1000
Arsenic, total	ug/L	MW-10	11/02/2021		102.0000	*	5.1000
Arsenic, total	ug/L	MW-11	03/16/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	03/17/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	03/24/2017	ND	40.0000		5.1000
Arsenic, total	ug/L	MW-11	04/20/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	04/24/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	05/25/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	06/20/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	07/19/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	08/08/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-11	05/09/2018	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-11	09/12/2018	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-11	05/17/2019	ND	1.0000		5.1000
Arsenic, total	ug/L	MW-11	11/06/2019		8.2000	*	5.1000
Arsenic, total	ug/L	MW-11	05/05/2020	ND	1.0000		5.1000
Arsenic, total	ug/L	MW-11	11/04/2020		10.7000	*	5.1000
Arsenic, total	ug/L	MW-11	05/06/2021	ND	1.0000		5.1000
Arsenic, total	ug/L	MW-11	11/02/2021		13.5000	*	5.1000
Arsenic, total	ug/L	MW-2R	09/28/2016		4.3000		5.1000
Arsenic, total	ug/L	MW-2R	10/19/2016	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	11/09/2016		6.4000	*	5.1000
Arsenic, total	ug/L	MW-2R	12/12/2016	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-2R	03/16/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	03/17/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	03/24/2017	ND	40.0000		5.1000
Arsenic, total	ug/L	MW-2R	04/20/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	04/24/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	05/16/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	06/20/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	08/08/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-2R	05/09/2018		31.0000	*	5.1000
Arsenic, total	ug/L	MW-2R	09/12/2018		11.0000	*	5.1000
Arsenic, total	ug/L	MW-2R	05/16/2019		8.3000	*	5.1000
Arsenic, total	ug/L	MW-2R	11/06/2019		10.5000	*	5.1000
Arsenic, total	ug/L	MW-2R	05/13/2020		14.7000	*	5.1000
Arsenic, total	ug/L	MW-2R	11/03/2020		8.9000	*	5.1000
Arsenic, total	ug/L	MW-2R	05/05/2021		6.2000	*	5.1000
Arsenic, total	ug/L	MW-2R	11/01/2021		9.9000	*	5.1000
Arsenic, total	ug/L	MW-3	09/28/2016		4.0000		5.1000
Arsenic, total	ug/L	MW-3	10/19/2016	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-3	11/09/2016		7.4000	*	5.1000
Arsenic, total	ug/L	MW-3	12/12/2016	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-3	02/05/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-3	03/24/2017	ND	40.0000		5.1000
Arsenic, total	ug/L	MW-3	05/25/2017	ND	10.0000		5.1000

* - 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
Arsenic, total	ug/L	MW-3	06/20/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-3	08/08/2017	ND	10.0000		5.1000
Arsenic, total	ug/L	MW-3	05/09/2018	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-3	09/12/2018	ND	5.0000		5.1000
Arsenic, total	ug/L	MW-3	05/16/2019		12.9000	*	5.1000
Arsenic, total	ug/L	MW-3	11/06/2019		10.3000	*	5.1000
Arsenic, total	ug/L	MW-3	05/13/2020		16.2000	*	5.1000
Arsenic, total	ug/L	MW-3	11/03/2020		20.5000	*	5.1000
Arsenic, total	ug/L	MW-3	05/05/2021		17.0000	*	5.1000
Arsenic, total	ug/L	MW-3	11/01/2021		17.9000	*	5.1000
Barium, total	ug/L	MW-10	03/16/2017		140.0000	*	67.1347
Barium, total	ug/L	MW-10	03/17/2017		160.0000	*	67.1347
Barium, total	ug/L	MW-10	03/24/2017		130.0000	*	67.1347
Barium, total	ug/L	MW-10	04/20/2017		110.0000	*	67.1347
Barium, total	ug/L	MW-10	04/24/2017		140.0000	*	67.1347
Barium, total	ug/L	MW-10	05/25/2017		130.0000	*	67.1347
Barium, total	ug/L	MW-10	06/20/2017		130.0000	*	67.1347
Barium, total	ug/L	MW-10	07/19/2017		99.0000	*	67.1347
Barium, total	ug/L	MW-10	08/08/2017		110.0000	*	67.1347
Barium, total	ug/L	MW-10	05/09/2018		68.0000	*	67.1347
Barium, total	ug/L	MW-10	09/12/2018		64.0000		67.1347
Barium, total	ug/L	MW-10	05/17/2019		41.2000		67.1347
Barium, total	ug/L	MW-10	11/06/2019		150.0000	*	67.1347
Barium, total	ug/L	MW-10	05/05/2020		68.5000	*	67.1347
Barium, total	ug/L	MW-10	11/04/2020		69.8000	*	67.1347
Barium, total	ug/L	MW-10	05/05/2021		120.0000	*	67.1347
Barium, total	ug/L	MW-10	11/02/2021		86.2000	*	67.1347
Barium, total	ug/L	MW-11	03/16/2017		34.0000		67.1347
Barium, total	ug/L	MW-11	03/17/2017		34.0000		67.1347
Barium, total	ug/L	MW-11	03/24/2017		30.0000		67.1347
Barium, total	ug/L	MW-11	04/20/2017		34.0000		67.1347
Barium, total	ug/L	MW-11	04/24/2017		29.0000		67.1347
Barium, total	ug/L	MW-11	05/25/2017		32.0000		67.1347
Barium, total	ug/L	MW-11	06/20/2017		27.0000		67.1347
Barium, total	ug/L	MW-11	07/19/2017		25.0000		67.1347
Barium, total	ug/L	MW-11	08/08/2017		28.0000		67.1347
Barium, total	ug/L	MW-11	05/09/2018		27.0000		67.1347
Barium, total	ug/L	MW-11	09/12/2018		30.0000		67.1347
Barium, total	ug/L	MW-11	05/17/2019		30.2000		67.1347
Barium, total	ug/L	MW-11	11/06/2019		58.5000		67.1347
Barium, total	ug/L	MW-11	05/05/2020		30.7000		67.1347
Barium, total	ug/L	MW-11	11/04/2020		89.2000	*	67.1347
Barium, total	ug/L	MW-11	05/06/2021		42.8000		67.1347
Barium, total	ug/L	MW-11	11/02/2021		100.0000	*	67.1347
Beryllium, total	ug/L	MW-10	03/16/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	03/17/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	03/24/2017	ND	4.0000		1.0000
Beryllium, total	ug/L	MW-10	04/20/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	04/24/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	05/25/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	06/20/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	07/19/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	08/08/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-10	05/09/2018	ND	5.0000		1.0000
Beryllium, total	ug/L	MW-10	09/12/2018	ND	0.6500		1.0000
Beryllium, total	ug/L	MW-10	05/17/2019	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-10	11/06/2019		3.3000	*	1.0000
Beryllium, total	ug/L	MW-10	05/05/2020	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-10	11/04/2020		0.5100		1.0000
Beryllium, total	ug/L	MW-10	05/05/2021		1.3000	*	1.0000
Beryllium, total	ug/L	MW-10	11/02/2021		0.4200		1.0000

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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
Beryllium, total	ug/L	MW-11	03/16/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	03/17/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	03/24/2017	ND	4.0000		1.0000
Beryllium, total	ug/L	MW-11	04/20/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	04/24/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	05/25/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	06/20/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	07/19/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	08/08/2017	ND	1.0000		1.0000
Beryllium, total	ug/L	MW-11	05/09/2018	ND	5.0000		1.0000
Beryllium, total	ug/L	MW-11	09/12/2018	ND	5.0000		1.0000
Beryllium, total	ug/L	MW-11	05/17/2019	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-11	11/06/2019		0.6300		1.0000
Beryllium, total	ug/L	MW-11	05/05/2020	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-11	11/04/2020		0.8900		1.0000
Beryllium, total	ug/L	MW-11	05/06/2021	ND	0.2000		1.0000
Beryllium, total	ug/L	MW-11	11/02/2021		1.0000	**	1.0000
Chromium, total	ug/L	MW-10	03/16/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	03/17/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	03/24/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	04/20/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	04/24/2017	ND	100.0000		10.0000
Chromium, total	ug/L	MW-10	05/25/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	06/20/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	07/19/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	08/08/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	05/09/2018	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	05/17/2019	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	05/05/2020	ND	10.0000		10.0000
Chromium, total	ug/L	MW-10	05/05/2021		11.1000	*	10.0000
Chromium, total	ug/L	MW-10	11/02/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	03/16/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	03/17/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	03/24/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	04/20/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	04/24/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	05/25/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	06/20/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	07/19/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	08/08/2017	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	05/09/2018	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	05/17/2019	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	05/05/2020	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	05/06/2021	ND	10.0000		10.0000
Chromium, total	ug/L	MW-11	11/02/2021		23.5000	*	10.0000
Lead, total	ug/L	MW-10	03/16/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	03/17/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	03/24/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	04/20/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	04/24/2017	ND	100.0000		10.0000
Lead, total	ug/L	MW-10	05/25/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	06/20/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	07/19/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	08/08/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	05/09/2018	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	05/17/2019	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	11/06/2019		29.5000	*	10.0000
Lead, total	ug/L	MW-10	05/05/2020	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	11/04/2020	ND	10.0000		10.0000
Lead, total	ug/L	MW-10	05/05/2021		10.5000	*	10.0000
Lead, total	ug/L	MW-10	11/02/2021	ND	10.0000		10.0000

* - 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
Lead, total	ug/L	MW-11	03/16/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	03/17/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	03/24/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	04/20/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	04/24/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	05/25/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	06/20/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	07/19/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	08/08/2017	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	05/09/2018	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	05/17/2019	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	11/06/2019	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	05/05/2020	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	11/04/2020		10.0000	**	10.0000
Lead, total	ug/L	MW-11	05/06/2021	ND	10.0000		10.0000
Lead, total	ug/L	MW-11	11/02/2021		12.4000	*	10.0000
Lithium, total	ug/L	MW-10	03/16/2017		32.0000	*	20.0000
Lithium, total	ug/L	MW-10	03/17/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	03/24/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	04/20/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	04/24/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	05/25/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	06/20/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	07/19/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	08/08/2017	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	05/09/2018	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	09/12/2018	ND	100.0000		20.0000
Lithium, total	ug/L	MW-10	05/17/2019	ND	20.0000		20.0000
Lithium, total	ug/L	MW-10	11/06/2019		48.5000	*	20.0000
Lithium, total	ug/L	MW-10	05/05/2020		56.6000	*	20.0000
Lithium, total	ug/L	MW-10	11/04/2020		40.0000	*	20.0000
Lithium, total	ug/L	MW-10	05/05/2021		40.9000	*	20.0000
Lithium, total	ug/L	MW-10	11/02/2021		54.8000	*	20.0000
Lithium, total	ug/L	MW-13	03/16/2017		750.0000	*	20.0000
Lithium, total	ug/L	MW-13	03/17/2017		740.0000	*	20.0000
Lithium, total	ug/L	MW-13	03/24/2017		650.0000	*	20.0000
Lithium, total	ug/L	MW-13	04/20/2017		1100.0000	*	20.0000
Lithium, total	ug/L	MW-13	04/24/2017		1100.0000	*	20.0000
Lithium, total	ug/L	MW-13	05/25/2017		840.0000	*	20.0000
Lithium, total	ug/L	MW-13	06/20/2017		1400.0000	*	20.0000
Lithium, total	ug/L	MW-13	07/19/2017		540.0000	*	20.0000
Lithium, total	ug/L	MW-13	08/08/2017		220.0000	*	20.0000
Lithium, total	ug/L	MW-13	05/09/2018	ND	100.0000		20.0000
Lithium, total	ug/L	MW-13	09/12/2018	ND	100.0000		20.0000
Lithium, total	ug/L	MW-13	05/17/2019	ND	20.0000		20.0000
Lithium, total	ug/L	MW-13	11/06/2019		28.6000	*	20.0000
Lithium, total	ug/L	MW-13	05/05/2020		39.6000	*	20.0000
Lithium, total	ug/L	MW-13	11/04/2020		238.0000	*	20.0000
Lithium, total	ug/L	MW-13	05/06/2021	ND	20.0000		20.0000
Lithium, total	ug/L	MW-13	11/02/2021		498.0000	*	20.0000
Lithium, total	ug/L	MW-2R	09/28/2016		1100.0000	*	20.0000
Lithium, total	ug/L	MW-2R	10/19/2016		820.0000	*	20.0000
Lithium, total	ug/L	MW-2R	11/09/2016		780.0000	*	20.0000
Lithium, total	ug/L	MW-2R	12/12/2016		510.0000	*	20.0000
Lithium, total	ug/L	MW-2R	03/16/2017		280.0000	*	20.0000
Lithium, total	ug/L	MW-2R	03/17/2017		410.0000	*	20.0000
Lithium, total	ug/L	MW-2R	03/24/2017		530.0000	*	20.0000
Lithium, total	ug/L	MW-2R	04/20/2017		780.0000	*	20.0000
Lithium, total	ug/L	MW-2R	04/24/2017		840.0000	*	20.0000
Lithium, total	ug/L	MW-2R	05/16/2017		1100.0000	*	20.0000
Lithium, total	ug/L	MW-2R	06/20/2017		1100.0000	*	20.0000

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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
Lithium, total	ug/L	MW-2R	08/08/2017		1000.0000	*	20.0000
Lithium, total	ug/L	MW-2R	05/09/2018		960.0000	*	20.0000
Lithium, total	ug/L	MW-2R	09/12/2018		800.0000	*	20.0000
Lithium, total	ug/L	MW-2R	05/16/2019		616.0000	*	20.0000
Lithium, total	ug/L	MW-2R	11/06/2019		495.0000	*	20.0000
Lithium, total	ug/L	MW-2R	05/13/2020		638.0000	*	20.0000
Lithium, total	ug/L	MW-2R	11/03/2020		522.0000	*	20.0000
Lithium, total	ug/L	MW-2R	05/05/2021		890.0000	*	20.0000
Lithium, total	ug/L	MW-2R	11/01/2021		912.0000	*	20.0000
Lithium, total	ug/L	MW-3	09/28/2016		2000.0000	*	20.0000
Lithium, total	ug/L	MW-3	10/19/2016		1900.0000	*	20.0000
Lithium, total	ug/L	MW-3	11/09/2016		2200.0000	*	20.0000
Lithium, total	ug/L	MW-3	12/12/2016		2200.0000	*	20.0000
Lithium, total	ug/L	MW-3	02/05/2017		2100.0000	*	20.0000
Lithium, total	ug/L	MW-3	03/24/2017		2100.0000	*	20.0000
Lithium, total	ug/L	MW-3	05/25/2017		2000.0000	*	20.0000
Lithium, total	ug/L	MW-3	06/20/2017		2000.0000	*	20.0000
Lithium, total	ug/L	MW-3	08/08/2017		1600.0000	*	20.0000
Lithium, total	ug/L	MW-3	05/09/2018		2600.0000	*	20.0000
Lithium, total	ug/L	MW-3	09/12/2018		2600.0000	*	20.0000
Lithium, total	ug/L	MW-3	05/16/2019		1260.0000	*	20.0000
Lithium, total	ug/L	MW-3	11/06/2019		1930.0000	*	20.0000
Lithium, total	ug/L	MW-3	05/13/2020		1520.0000	*	20.0000
Lithium, total	ug/L	MW-3	11/03/2020		1760.0000	*	20.0000
Lithium, total	ug/L	MW-3	05/05/2021		1820.0000	*	20.0000
Lithium, total	ug/L	MW-3	11/01/2021		1880.0000	*	20.0000
Lithium, total	ug/L	MW-4C	09/28/2016		310.0000	*	20.0000
Lithium, total	ug/L	MW-4C	10/19/2016		280.0000	*	20.0000
Lithium, total	ug/L	MW-4C	11/09/2016		330.0000	*	20.0000
Lithium, total	ug/L	MW-4C	12/12/2016		260.0000	*	20.0000
Lithium, total	ug/L	MW-4C	02/05/2017		310.0000	*	20.0000
Lithium, total	ug/L	MW-4C	03/25/2017		290.0000	*	20.0000
Lithium, total	ug/L	MW-4C	05/25/2017		330.0000	*	20.0000
Lithium, total	ug/L	MW-4C	06/20/2017		250.0000	*	20.0000
Lithium, total	ug/L	MW-4C	08/08/2017		230.0000	*	20.0000
Lithium, total	ug/L	MW-4C	05/09/2018		250.0000	*	20.0000
Lithium, total	ug/L	MW-4C	09/12/2018		280.0000	*	20.0000
Lithium, total	ug/L	MW-4C	05/16/2019		316.0000	*	20.0000
Lithium, total	ug/L	MW-4C	11/06/2019		284.0000	*	20.0000
Lithium, total	ug/L	MW-4C	05/13/2020		242.0000	*	20.0000
Lithium, total	ug/L	MW-4C	11/03/2020		287.0000	*	20.0000
Lithium, total	ug/L	MW-4C	05/05/2021		359.0000	*	20.0000
Lithium, total	ug/L	MW-4C	11/01/2021		334.0000	*	20.0000
Molybdenum, total	ug/L	MW-3	09/28/2016		350.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	10/19/2016		330.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	11/09/2016		280.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	12/12/2016		390.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	02/05/2017		660.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	03/24/2017		660.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	05/25/2017		570.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	06/20/2017		510.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	08/08/2017		330.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	05/09/2018		390.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	09/12/2018		520.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	05/16/2019		338.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	11/06/2019		508.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	05/13/2020		529.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	11/03/2020		549.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	05/05/2021		532.0000	*	100.0000
Molybdenum, total	ug/L	MW-3	11/01/2021		501.0000	*	100.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

MAY 2022

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total (Federal)	ug/L	MW-1	09/28/2016	ND	0.0500	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	10/19/2016	ND	50.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	11/09/2016	ND	50.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	12/12/2016	ND	5.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	02/05/2017	ND	6.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	03/24/2017	ND	6.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	05/16/2017	ND	6.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	06/20/2017	ND	6.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	08/08/2017	ND	6.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	09/12/2018	ND	1.4000		
Antimony, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000	1.4000	**
Antimony, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	1.4000	**
Arsenic, total (Federal)	ug/L	MW-1	09/28/2016		3.9000		
Arsenic, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	11/09/2016		5.1000		
Arsenic, total (Federal)	ug/L	MW-1	12/12/2016	ND	5.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	02/05/2017	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	03/24/2017	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	05/16/2017	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	06/20/2017	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	08/08/2017	ND	10.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	09/12/2018	ND	1.2000		
Arsenic, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000	1.2000	**
Arsenic, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	1.2000	**
Barium, total (Federal)	ug/L	MW-1	09/28/2016		43.0000		
Barium, total (Federal)	ug/L	MW-1	10/19/2016		51.0000		
Barium, total (Federal)	ug/L	MW-1	11/09/2016		59.0000		
Barium, total (Federal)	ug/L	MW-1	12/12/2016		56.0000		
Barium, total (Federal)	ug/L	MW-1	02/05/2017		52.0000		
Barium, total (Federal)	ug/L	MW-1	03/24/2017		50.0000		
Barium, total (Federal)	ug/L	MW-1	05/16/2017		48.0000		
Barium, total (Federal)	ug/L	MW-1	06/20/2017		49.0000		
Barium, total (Federal)	ug/L	MW-1	08/08/2017		47.0000		
Barium, total (Federal)	ug/L	MW-1	05/10/2018		47.0000		
Barium, total (Federal)	ug/L	MW-1	09/12/2018		49.0000		
Barium, total (Federal)	ug/L	MW-1	05/17/2019		29.4000		
Barium, total (Federal)	ug/L	MW-1	11/06/2019		41.9000		
Barium, total (Federal)	ug/L	MW-1	05/06/2020		42.6000		
Barium, total (Federal)	ug/L	MW-1	11/03/2020		41.3000		
Barium, total (Federal)	ug/L	MW-1	05/05/2021		52.2000		
Barium, total (Federal)	ug/L	MW-1	11/01/2021		58.4000		
Barium, total (Federal)	ug/L	MW-1	05/04/2022		48.0000		
Beryllium, total (Federal)	ug/L	MW-1	09/28/2016	ND	10.0000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	11/09/2016	ND	10.0000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	12/12/2016	ND	10.0000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	02/05/2017	ND	4.0000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	03/24/2017	ND	1.0000		
Beryllium, total (Federal)	ug/L	MW-1	05/16/2017	ND	1.0000		
Beryllium, total (Federal)	ug/L	MW-1	06/20/2017	ND	1.0000		
Beryllium, total (Federal)	ug/L	MW-1	08/08/2017	ND	1.0000		
Beryllium, total (Federal)	ug/L	MW-1	05/10/2018	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.6500	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	05/17/2019	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	11/06/2019	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	05/06/2020	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	11/03/2020	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	05/05/2021	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	11/01/2021	ND	0.2000	1.0000	**
Beryllium, total (Federal)	ug/L	MW-1	05/04/2022	ND	0.2000	1.0000	**
Cadmium, total (Federal)	ug/L	MW-1	09/28/2016	ND	10.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	11/09/2016	ND	10.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	12/12/2016	ND	10.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	02/05/2017	ND	1.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	03/24/2017	ND	1.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	05/16/2017	ND	1.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	06/20/2017	ND	1.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	08/08/2017	ND	1.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.5500	2.0000	**
Cadmium, total (Federal)	ug/L	MW-1	05/17/2019	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	11/06/2019	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	05/06/2020	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	11/03/2020	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	05/05/2021	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	11/01/2021	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	05/04/2022	ND	0.2000	2.0000	**
Chromium, total (Federal)	ug/L	MW-1	09/28/2016	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	11/09/2016	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	12/12/2016	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	02/05/2017	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	03/24/2017	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/16/2017	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	06/20/2017	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	08/08/2017	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/10/2018	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/17/2019	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/06/2020	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/05/2021	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	11/01/2021	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/04/2022		2.2000		
Cobalt, total (Federal)	ug/L	MW-1	09/28/2016	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	10/19/2016	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	11/09/2016	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	12/12/2016	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	02/05/2017	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	03/24/2017	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	05/16/2017	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	06/20/2017	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	08/08/2017	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	05/10/2018	ND	20.0000		
Cobalt, total (Federal)	ug/L	MW-1	09/12/2018	ND	3.6000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000	20.0000	**
Cobalt, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	20.0000	**
Fluoride (Federal)	mg/L	MW-1	09/28/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-1	10/19/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	11/09/2016	ND	0.5000	5.0000	**
Fluoride (Federal)	mg/L	MW-1	12/12/2016	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	02/05/2017	ND	5.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride (Federal)	mg/L	MW-1	03/24/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	05/16/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	06/20/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	08/08/2017	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	05/10/2018	ND	5.0000		
Fluoride (Federal)	mg/L	MW-1	09/12/2018	ND	0.6000	5.0000	**
Fluoride (Federal)	mg/L	MW-1	05/17/2019	ND	0.1000	5.0000	**
Fluoride (Federal)	mg/L	MW-1	11/06/2019		0.1200		
Fluoride (Federal)	mg/L	MW-1	05/06/2020		0.1300		
Fluoride (Federal)	mg/L	MW-1	11/03/2020		0.1400		
Fluoride (Federal)	mg/L	MW-1	05/05/2021		0.1000		
Fluoride (Federal)	mg/L	MW-1	11/01/2021		0.1100		
Fluoride (Federal)	mg/L	MW-1	05/04/2022	ND	0.1000	5.0000	**
Lead, total (Federal)	ug/L	MW-1	09/28/2016	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	11/09/2016	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	12/12/2016	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	02/05/2017	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	03/24/2017	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/16/2017	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	06/20/2017	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	08/08/2017	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/10/2018	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/17/2019	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	11/06/2019	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/06/2020	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	11/03/2020	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/05/2021	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	11/01/2021	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	10.0000	**
Lithium, total (Federal)	ug/L	MW-1	09/28/2016	ND	2.8000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	10/19/2016	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	11/09/2016		4.1000		
Lithium, total (Federal)	ug/L	MW-1	12/12/2016	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	02/05/2017		5.2000		
Lithium, total (Federal)	ug/L	MW-1	03/24/2017	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	05/16/2017	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	06/20/2017	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	08/08/2017	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	05/10/2018	ND	6.2000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	09/12/2018	ND	100.0000	20.0000	**
Lithium, total (Federal)	ug/L	MW-1	05/17/2019	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	11/06/2019	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	05/06/2020	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	11/03/2020	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	05/05/2021	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	11/01/2021	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	05/04/2022	ND	20.0000		
Mercury, total (Federal)	ug/L	MW-1	09/28/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	10/19/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	11/09/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	12/12/2016	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	02/05/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	03/24/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	05/16/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	06/20/2017		0.6700		
Mercury, total (Federal)	ug/L	MW-1	08/08/2017	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	05/10/2018	ND	0.2000		
Mercury, total (Federal)	ug/L	MW-1	05/17/2019	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-1	05/06/2020	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-1	05/05/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-1	11/01/2021	ND	2.0000	0.2000	**
Mercury, total (Federal)	ug/L	MW-1	05/04/2022	ND	0.2000		
Molybdenum, total (Federal)	ug/L	MW-1	09/28/2016	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 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum, total (Federal)	ug/L	MW-1	10/19/2016	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	11/09/2016	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	12/12/2016	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	02/05/2017	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	03/24/2017	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	05/16/2017	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	06/20/2017	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	08/08/2017	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	05/10/2018	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	09/12/2018	ND	100.0000		
Molybdenum, total (Federal)	ug/L	MW-1	05/17/2019	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	11/06/2019	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	05/06/2020	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	11/03/2020	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	05/05/2021	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	11/01/2021	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	100.0000	**
Selenium, total (Federal)	ug/L	MW-1	09/28/2016	ND	1.6000		
Selenium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	11/09/2016		8.6000		
Selenium, total (Federal)	ug/L	MW-1	12/12/2016	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	02/05/2017	ND	30.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	03/24/2017	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/16/2017	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	06/20/2017	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	08/08/2017	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.9000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000	1.6000	**
Selenium, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	1.6000	**
Thallium, total (Federal)	ug/L	MW-1	09/28/2016	ND	50.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	10/19/2016	ND	50.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	11/09/2016	ND	50.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	12/12/2016	ND	50.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	02/05/2017	ND	2.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	03/24/2017	ND	5.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	05/16/2017	ND	5.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	06/20/2017	ND	5.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	08/08/2017	ND	5.0000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	05/10/2018	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.6000	1.0000	**
Thallium, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000		
Thallium, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000		
Total Radium (Federal)	pCi/L	MW-1	09/28/2016		2.6000		
Total Radium (Federal)	pCi/L	MW-1	10/19/2016		1.3000		
Total Radium (Federal)	pCi/L	MW-1	11/09/2016		1.2800		
Total Radium (Federal)	pCi/L	MW-1	12/12/2016		1.1200		
Total Radium (Federal)	pCi/L	MW-1	02/05/2017		1.8600		
Total Radium (Federal)	pCi/L	MW-1	03/24/2017	ND	0.5700	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	05/16/2017		0.8200		
Total Radium (Federal)	pCi/L	MW-1	06/20/2017		4.4600		*
Total Radium (Federal)	pCi/L	MW-1	08/08/2017		1.4300		
Total Radium (Federal)	pCi/L	MW-1	05/10/2018	ND	1.0000	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	09/12/2018	ND	1.0000	1.5100	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Total Radium (Federal)	pCi/L	MW-1	05/17/2019	ND	1.7800	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	11/06/2019	ND	1.4700	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	05/06/2020	ND	1.8200	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	11/03/2020		1.1300		
Total Radium (Federal)	pCi/L	MW-1	05/05/2021	ND	1.6400	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	11/01/2021	ND	1.9100	1.5100	**
Total Radium (Federal)	pCi/L	MW-1	05/04/2022	ND	1.5100		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total (Federal)	ug/L	MW-10	05/04/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-12	05/04/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-13	05/04/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		1.4000
Arsenic, total (Federal)	ug/L	MW-10	05/04/2022		78.8000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000	**	5.1000
Arsenic, total (Federal)	ug/L	MW-12	05/04/2022		1.1000		5.1000
Arsenic, total (Federal)	ug/L	MW-13	05/04/2022	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/08/2022		16.3000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/08/2022		14.8000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		5.1000
Barium, total (Federal)	ug/L	MW-10	05/04/2022		102.0000	***	66.4172
Barium, total (Federal)	ug/L	MW-11	05/04/2022		30.5000	**	66.4172
Barium, total (Federal)	ug/L	MW-12	05/04/2022		27.5000		66.4172
Barium, total (Federal)	ug/L	MW-13	05/04/2022		22.0000		66.4172
Barium, total (Federal)	ug/L	MW-2R	05/08/2022		45.2000		66.4172
Barium, total (Federal)	ug/L	MW-3	05/08/2022		55.0000		66.4172
Barium, total (Federal)	ug/L	MW-4C	05/08/2022		26.6000		66.4172
Beryllium, total (Federal)	ug/L	MW-10	05/04/2022		0.9400		1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/04/2022	ND	0.2000	**	1.0000
Beryllium, total (Federal)	ug/L	MW-12	05/04/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-13	05/04/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-2R	05/08/2022	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	05/08/2022	ND	0.2000		1.0000
Cadmium, total (Federal)	ug/L	MW-10	05/04/2022		0.2200		2.0000
Cadmium, total (Federal)	ug/L	MW-11	05/04/2022	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-12	05/04/2022	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-13	05/04/2022	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-2R	05/08/2022	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-3	05/08/2022	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-4C	05/08/2022		0.8800		2.0000
Chromium, total (Federal)	ug/L	MW-10	05/04/2022		5.3000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/04/2022	ND	2.0000	**	10.0000
Chromium, total (Federal)	ug/L	MW-12	05/04/2022	ND	2.0000		10.0000
Chromium, total (Federal)	ug/L	MW-13	05/04/2022	ND	2.0000		10.0000
Chromium, total (Federal)	ug/L	MW-2R	05/08/2022	ND	2.0000		10.0000
Chromium, total (Federal)	ug/L	MW-3	05/08/2022	ND	2.0000		10.0000
Chromium, total (Federal)	ug/L	MW-4C	05/08/2022	ND	2.0000		10.0000
Cobalt, total (Federal)	ug/L	MW-10	05/04/2022		3.7000		20.0000
Cobalt, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-12	05/04/2022	ND	1.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-13	05/04/2022	ND	1.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-2R	05/08/2022		3.3000		20.0000
Cobalt, total (Federal)	ug/L	MW-3	05/08/2022		1.8000		20.0000
Cobalt, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		20.0000
Fluoride (Federal)	mg/L	MW-10	05/04/2022		0.2400		5.0000
Fluoride (Federal)	mg/L	MW-11	05/04/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-12	05/04/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-13	05/04/2022		0.5300		5.0000
Fluoride (Federal)	mg/L	MW-2R	05/08/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-3	05/08/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-4C	05/08/2022	ND	0.1000		5.0000
Lead, total (Federal)	ug/L	MW-10	05/04/2022		7.8000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000	**	10.0000
Lead, total (Federal)	ug/L	MW-12	05/04/2022		1.1000		10.0000
Lead, total (Federal)	ug/L	MW-13	05/04/2022	ND	1.0000		10.0000
Lead, total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000		10.0000
Lead, total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000		10.0000

* - 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 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		10.0000
Lithium, total (Federal)	ug/L	MW-10	05/04/2022		47.4000	***	20.0000
Lithium, total (Federal)	ug/L	MW-11	05/04/2022	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-12	05/04/2022	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	05/04/2022		74.8000	***	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/08/2022		897.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/08/2022		1960.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/08/2022		442.0000	***	20.0000
Mercury, total (Federal)	ug/L	MW-10	05/04/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-11	05/04/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-12	05/04/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-13	05/04/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-2R	05/08/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-3	05/08/2022	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-4C	05/08/2022	ND	0.2000		0.6700
Molybdenum, total (Federal)	ug/L	MW-10	05/04/2022		14.9000		100.0000
Molybdenum, total (Federal)	ug/L	MW-11	05/04/2022		1.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-12	05/04/2022	ND	1.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-13	05/04/2022		37.8000		100.0000
Molybdenum, total (Federal)	ug/L	MW-2R	05/08/2022		10.2000		100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/08/2022		273.0000	***	100.0000
Molybdenum, total (Federal)	ug/L	MW-4C	05/08/2022		7.8000		100.0000
Selenium, total (Federal)	ug/L	MW-10	05/04/2022		1.7000		8.6000
Selenium, total (Federal)	ug/L	MW-11	05/04/2022		3.8000		8.6000
Selenium, total (Federal)	ug/L	MW-12	05/04/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-13	05/04/2022		4.6000		8.6000
Selenium, total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		8.6000
Thallium, total (Federal)	ug/L	MW-10	05/04/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-12	05/04/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-13	05/04/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-2R	05/08/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-3	05/08/2022	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-4C	05/08/2022	ND	1.0000		1.0000
Total Radium (Federal)	pCi/L	MW-10	05/04/2022		1.1800		2.6000
Total Radium (Federal)	pCi/L	MW-11	05/04/2022	ND	1.5200		2.6000
Total Radium (Federal)	pCi/L	MW-12	05/04/2022	ND	1.6400		2.6000
Total Radium (Federal)	pCi/L	MW-13	05/04/2022		0.6940		2.6000
Total Radium (Federal)	pCi/L	MW-2R	05/08/2022		1.2200		2.6000
Total Radium (Federal)	pCi/L	MW-3	05/08/2022		1.2600		2.6000
Total Radium (Federal)	pCi/L	MW-4C	05/08/2022		1.1600		2.6000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total (Federal)	0	18	0.000	3	129	0.023
Arsenic, total (Federal)	2	18	0.111	46	129	0.357
Barium, total (Federal)	18	18	1.000	128	129	0.992
Beryllium, total (Federal)	0	18	0.000	8	129	0.062
Cadmium, total (Federal)	0	18	0.000	2	129	0.016
Chromium, total (Federal)	1	15	0.067	3	108	0.028
Cobalt, total (Federal)	0	18	0.000	30	129	0.233
Fluoride (Federal)	5	18	0.278	43	129	0.333
Lead, total (Federal)	0	17	0.000	7	122	0.057
Lithium, total (Federal)	2	18	0.111	78	129	0.605
Mercury, total (Federal)	1	15	0.067	4	108	0.037
Molybdenum, total (Federal)	0	18	0.000	39	129	0.302
Selenium, total (Federal)	1	18	0.056	35	129	0.271
Thallium, total (Federal)	0	18	0.000	3	129	0.023
Total Radium (Federal)	8	17	0.471	81	124	0.653

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value
Antimony, total (Federal)	0	18	0.000	4.885	4.885					2.326
Arsenic, total (Federal)	2	18	0.111	7.591	7.630					2.326
Barium, total (Federal)	18	18	1.000	0.714	2.018					2.326
Beryllium, total (Federal)	0	18	0.000	4.885	4.885					2.326
Cadmium, total (Federal)	0	18	0.000	4.885	4.885					2.326
Chromium, total (Federal)	1	15	0.067	4.373	4.373					2.326
Cobalt, total (Federal)	0	18	0.000	4.885	4.885					2.326
Fluoride (Federal)	5	18	0.278	5.443	5.325					2.326
Lead, total (Federal)	0	17	0.000	4.713	4.713					2.326
Lithium, total (Federal)	2	18	0.111	7.732	7.655					2.326
Mercury, total (Federal)	1	15	0.067	4.373	4.373					2.326
Molybdenum, total (Federal)	0	18	0.000	4.885	4.885					2.326
Selenium, total (Federal)	1	18	0.056	4.885	4.885					2.326
Thallium, total (Federal)	0	18	0.000	4.885	4.885					2.326
Total Radium (Federal)	8	17	0.471	3.104	2.314					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 4

Shapiro-Wilk Multiple Group Test of Normality

Dist Form	Model Type
non-norm	nonpar
non-norm	nonpar
normal	normal
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
non-norm	nonpar
non-norm	nonpar
non-norm	nonpar
lognor	nonpar

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total (Federal)	ug/L	0	18					1.4000	nonpar	***	0.97
Arsenic, total (Federal)	ug/L	2	18					5.1000	nonpar		0.97
Barium, total (Federal)	ug/L	18	18	48.0444	6.9705	0.0100	2.6358	66.4172	normal		
Beryllium, total (Federal)	ug/L	0	18					1.0000	nonpar	***	0.97
Cadmium, total (Federal)	ug/L	0	18					2.0000	nonpar	***	0.97
Chromium, total (Federal)	ug/L	1	15					10.0000	nonpar	***	0.95
Cobalt, total (Federal)	ug/L	0	18					20.0000	nonpar	***	0.97
Fluoride (Federal)	mg/L	5	18					5.0000	nonpar	***	0.97
Lead, total (Federal)	ug/L	0	17					10.0000	nonpar	***	0.96
Lithium, total (Federal)	ug/L	2	18					20.0000	nonpar	***	0.97
Mercury, total (Federal)	ug/L	1	15					0.6700	nonpar		0.95
Molybdenum, total (Federal)	ug/L	0	18					100.0000	nonpar	***	0.97
Selenium, total (Federal)	ug/L	1	18					8.6000	nonpar		0.97
Thallium, total (Federal)	ug/L	0	18					1.0000	nonpar	***	0.97
Total Radium (Federal)	pCi/L	8	17					2.6000	nonpar		0.96

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6

Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Total Radium (Federal)	pCi/L	MW-1	06/20/2017	4.4600		09/28/2016-05/04/2022	18	0.5643

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total (Federal)	ug/L	MW-10	03/16/2017		48.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	03/17/2017		44.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	03/24/2017		76.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	04/20/2017		60.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	04/24/2017		57.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/25/2017		55.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	06/20/2017		49.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	07/19/2017		57.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	08/08/2017		58.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/09/2018		47.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	09/12/2018		63.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/17/2019		30.3000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	11/06/2019		127.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/05/2020		95.4000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	11/04/2020		104.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/05/2021		96.4000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	11/02/2021		102.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/04/2022		78.8000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-11	03/16/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	03/17/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	03/24/2017	ND	40.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	04/20/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	04/24/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/25/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	06/20/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	07/19/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	08/08/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/09/2018	ND	5.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	09/12/2018	ND	5.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/17/2019	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	11/06/2019		8.2000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/05/2020	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	11/04/2020		10.7000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/06/2021	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-11	11/02/2021		13.5000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	09/28/2016		4.3000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	10/19/2016	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	11/09/2016		6.4000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	12/12/2016	ND	5.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	03/16/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	03/17/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	03/24/2017	ND	40.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	04/20/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	04/24/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/16/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	06/20/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	08/08/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/09/2018		31.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	09/12/2018		11.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/16/2019		8.3000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	11/06/2019		10.5000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/13/2020		14.7000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	11/03/2020		8.9000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/05/2021		6.2000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	11/01/2021		9.9000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/08/2022		16.3000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	09/28/2016		4.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	10/19/2016	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	11/09/2016		7.4000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	12/12/2016	ND	5.0000		5.1000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total (Federal)	ug/L	MW-3	02/05/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	03/24/2017	ND	40.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/25/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	06/20/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	08/08/2017	ND	10.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/09/2018	ND	5.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	09/12/2018	ND	5.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/16/2019		12.9000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	11/06/2019		10.3000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/13/2020		16.2000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	11/03/2020		20.5000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/05/2021		17.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	11/01/2021		17.9000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/08/2022		14.8000	*	5.1000
Barium, total (Federal)	ug/L	MW-10	03/16/2017		140.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	03/17/2017		160.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	03/24/2017		130.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	04/20/2017		110.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	04/24/2017		140.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	05/25/2017		130.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	06/20/2017		130.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	07/19/2017		99.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	08/08/2017		110.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	05/09/2018		68.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	09/12/2018		64.0000		66.4172
Barium, total (Federal)	ug/L	MW-10	05/17/2019		41.2000		66.4172
Barium, total (Federal)	ug/L	MW-10	11/06/2019		150.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	05/05/2020		68.5000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	11/04/2020		69.8000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	05/05/2021		120.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	11/02/2021		86.2000	*	66.4172
Barium, total (Federal)	ug/L	MW-10	05/04/2022		102.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-11	03/16/2017		34.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	03/17/2017		34.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	03/24/2017		30.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	04/20/2017		34.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	04/24/2017		29.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	05/25/2017		32.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	06/20/2017		27.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	07/19/2017		25.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	08/08/2017		28.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	05/09/2018		27.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	09/12/2018		30.0000		66.4172
Barium, total (Federal)	ug/L	MW-11	05/17/2019		30.2000		66.4172
Barium, total (Federal)	ug/L	MW-11	11/06/2019		58.5000		66.4172
Barium, total (Federal)	ug/L	MW-11	05/05/2020		30.7000		66.4172
Barium, total (Federal)	ug/L	MW-11	11/04/2020		89.2000	*	66.4172
Barium, total (Federal)	ug/L	MW-11	05/06/2021		42.8000		66.4172
Barium, total (Federal)	ug/L	MW-11	11/02/2021		100.0000	*	66.4172
Barium, total (Federal)	ug/L	MW-11	05/04/2022		30.5000		66.4172
Beryllium, total (Federal)	ug/L	MW-11	03/16/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	03/17/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	03/24/2017	ND	4.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	04/20/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	04/24/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/25/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	06/20/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	07/19/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	08/08/2017	ND	1.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/09/2018	ND	5.0000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	09/12/2018	ND	5.0000		1.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

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
Beryllium, total (Federal)	ug/L	MW-11	05/17/2019	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	11/06/2019		0.6300		1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/05/2020	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	11/04/2020		0.8900		1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/06/2021	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	11/02/2021		1.0000	**	1.0000
Beryllium, total (Federal)	ug/L	MW-11	05/04/2022	ND	0.2000		1.0000
Chromium, total (Federal)	ug/L	MW-11	03/16/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	03/17/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	03/24/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	04/20/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	04/24/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/25/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	06/20/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	07/19/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	08/08/2017	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/09/2018	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/17/2019	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/05/2020	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/06/2021	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	11/02/2021		23.5000	*	10.0000
Chromium, total (Federal)	ug/L	MW-11	05/04/2022	ND	2.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	03/16/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	03/17/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	03/24/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	04/20/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	04/24/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/25/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	06/20/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	07/19/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	08/08/2017	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/09/2018	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/17/2019	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	11/06/2019	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/05/2020	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	11/04/2020		10.0000	**	10.0000
Lead, total (Federal)	ug/L	MW-11	05/06/2021	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	11/02/2021		12.4000	*	10.0000
Lead, total (Federal)	ug/L	MW-11	05/04/2022	ND	1.0000		10.0000
Lithium, total (Federal)	ug/L	MW-10	03/16/2017		32.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	03/17/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	03/24/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	04/20/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	04/24/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	05/25/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	06/20/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	07/19/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	08/08/2017	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	05/09/2018	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	09/12/2018	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	05/17/2019	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-10	11/06/2019		48.5000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	05/05/2020		56.6000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	11/04/2020		40.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	05/05/2021		40.9000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	11/02/2021		60.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	05/04/2022		47.4000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	03/16/2017		750.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	03/17/2017		740.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	03/24/2017		650.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	04/20/2017		1100.0000	*	20.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Lithium, total (Federal)	ug/L	MW-13	04/24/2017		1100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/25/2017		840.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	06/20/2017		1400.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	07/19/2017		540.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	08/08/2017		220.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/09/2018	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	09/12/2018	ND	100.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	05/17/2019	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	11/06/2019		28.6000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/05/2020		39.6000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	11/04/2020		238.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/06/2021	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	11/02/2021		492.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/04/2022		74.8000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	09/28/2016		1100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	10/19/2016		820.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/09/2016		780.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	12/12/2016		510.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	03/16/2017		280.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	03/17/2017		410.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	03/24/2017		530.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	04/20/2017		780.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	04/24/2017		840.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/16/2017		1100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	06/20/2017		1100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	08/08/2017		1000.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/09/2018		960.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	09/12/2018		800.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/16/2019		616.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/06/2019		495.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/13/2020		638.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/03/2020		522.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/05/2021		890.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/01/2021		912.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/08/2022		897.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	09/28/2016		2000.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	10/19/2016		1900.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	11/09/2016		2200.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	12/12/2016		2200.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	02/05/2017		2100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	03/24/2017		2100.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/25/2017		2000.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	06/20/2017		2000.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	08/08/2017		1600.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/09/2018		2600.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	09/12/2018		2600.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/16/2019		1260.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	11/06/2019		1930.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/13/2020		1520.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	11/03/2020		1760.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/05/2021		1820.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	11/01/2021		1880.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/08/2022		1960.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	09/28/2016		310.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	10/19/2016		280.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	11/09/2016		330.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	12/12/2016		260.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	02/05/2017		310.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	03/25/2017		290.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/25/2017		330.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	06/20/2017		250.0000	*	20.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

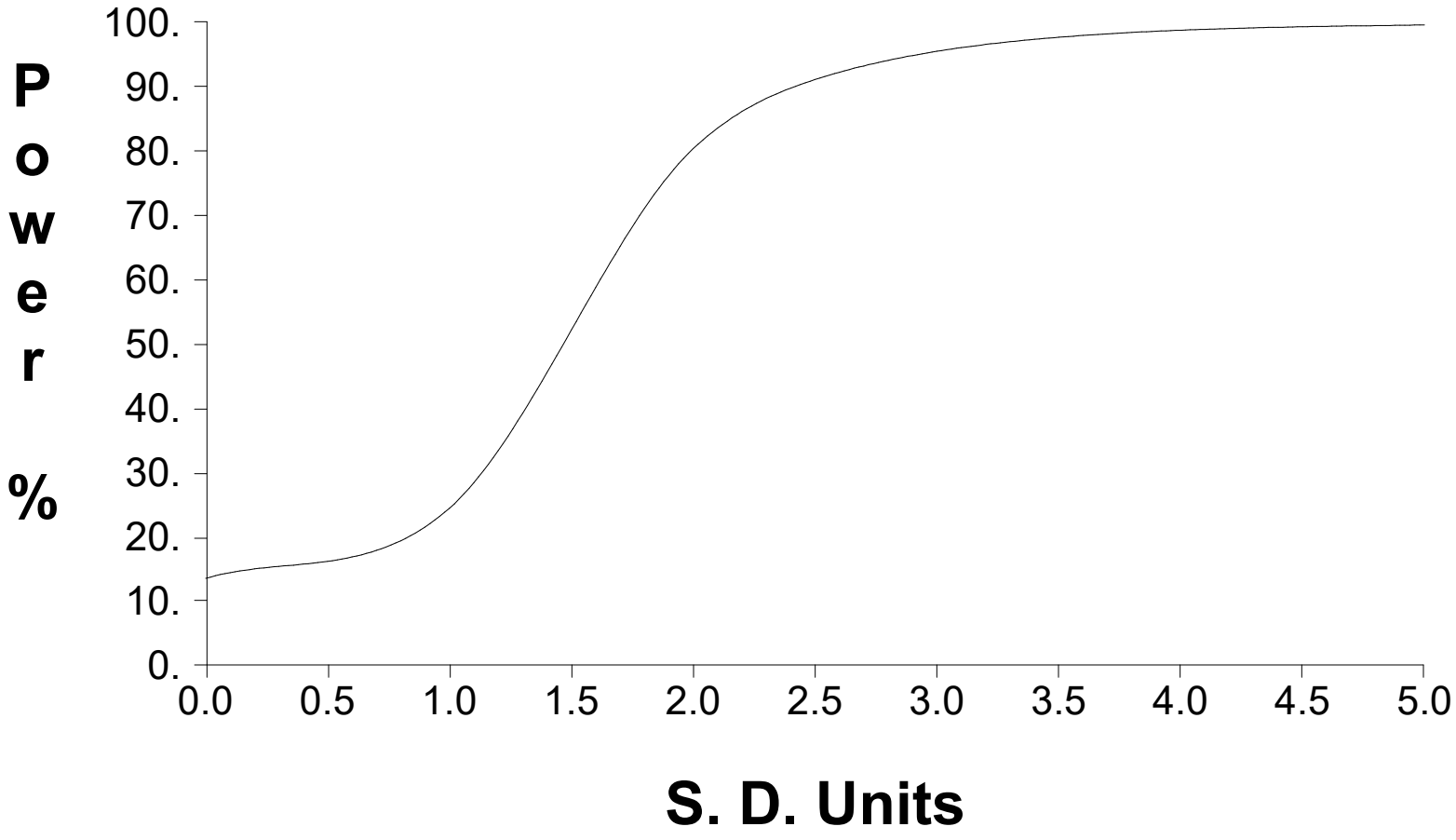
Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Lithium, total (Federal)	ug/L	MW-4C	08/08/2017		230.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/09/2018		250.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	09/12/2018		280.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/16/2019		316.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	11/06/2019		284.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/13/2020		242.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	11/03/2020		287.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/05/2021		359.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	11/01/2021		334.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/08/2022		442.0000	*	20.0000
Molybdenum, total (Federal)	ug/L	MW-3	09/28/2016		350.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	10/19/2016		330.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	11/09/2016		280.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	12/12/2016		390.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	02/05/2017		660.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	03/24/2017		660.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/25/2017		570.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	06/20/2017		510.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	08/08/2017		330.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/09/2018		390.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	09/12/2018		520.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/16/2019		338.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	11/06/2019		508.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/13/2020		529.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	11/03/2020		549.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/05/2021		532.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	11/01/2021		501.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/08/2022		273.0000	*	100.0000

* - 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	MW-10	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total	ug/L	MW-11	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total	ug/L	MW-12	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total	ug/L	MW-13	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, total	ug/L	MW-3	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, total	ug/L	MW-4C	4	2.500	0.000	1.176	2.500	2.500	6.000	
Arsenic, total	ug/L	MW-10	4	99.450	4.200	1.176	94.510	104.390	10.000	
Arsenic, total	ug/L	MW-11	4	8.550	4.256	1.176	3.544	13.556	10.000	
Arsenic, total	ug/L	MW-12	4	3.575	1.786	1.176	1.474	5.676	10.000	
Arsenic, total	ug/L	MW-13	4	5.000	0.000	1.176	5.000	5.000	10.000	
Arsenic, total	ug/L	MW-2R	4	9.925	3.546	1.176	5.754	14.096	10.000	
Arsenic, total	ug/L	MW-3	4	17.900	1.867	1.176	15.704	20.096	10.000	
Arsenic, total	ug/L	MW-4C	4	2.500	0.000	1.176	2.500	2.500	10.000	
Barium, total	ug/L	MW-10	4	86.125	23.977	1.176	57.921	114.329	2000.000	
Barium, total	ug/L	MW-11	4	65.675	34.050	1.176	25.623	105.727	2000.000	
Barium, total	ug/L	MW-12	4	34.100	5.402	1.176	27.746	40.454	2000.000	
Barium, total	ug/L	MW-13	4	22.750	5.249	1.176	16.575	28.925	2000.000	dec
Barium, total	ug/L	MW-2R	4	46.525	5.103	1.176	40.523	52.527	2000.000	
Barium, total	ug/L	MW-3	4	39.650	2.834	1.176	36.317	42.983	2000.000	
Barium, total	ug/L	MW-4C	4	29.575	1.305	1.176	28.040	31.110	2000.000	
Beryllium, total	ug/L	MW-10	4	0.683	0.414	1.176	0.196	1.169	4.000	
Beryllium, total	ug/L	MW-11	4	0.723	0.261	1.176	0.416	1.029	4.000	
Beryllium, total	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	4.000	
Cadmium, total	ug/L	MW-10	4	0.500	0.000	1.176	0.500	0.500	5.000	
Cadmium, total	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total	ug/L	MW-13	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total	ug/L	MW-2R	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	5.000	
Chromium, total	ug/L	MW-10	4	6.525	3.050	1.176	2.937	10.113	100.000	
Chromium, total	ug/L	MW-11	4	9.625	9.250	1.176	0.000	20.506	100.000	
Chromium, total	ug/L	MW-12	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total	ug/L	MW-13	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total	ug/L	MW-2R	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total	ug/L	MW-3	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total	ug/L	MW-4C	4	5.000	0.000	1.176	5.000	5.000	100.000	
Cobalt, total	ug/L	MW-10	4	3.900	1.120	1.176	2.583	5.217	6.000	
Cobalt, total	ug/L	MW-11	4	6.650	3.872	1.176	2.096	11.204	6.000	
Cobalt, total	ug/L	MW-12	4	7.825	4.350	1.176	2.708	12.942	6.000	
Cobalt, total	ug/L	MW-13	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, total	ug/L	MW-2R	4	2.750	0.387	1.176	2.294	3.206	6.000	
Cobalt, total	ug/L	MW-3	4	2.300	0.283	1.176	1.967	2.633	6.000	
Cobalt, total	ug/L	MW-4C	4	3.325	4.451	1.176	0.000	8.560	6.000	
Fluoride	mg/L	MW-10	4	0.465	0.044	1.176	0.413	0.517	4.000	
Fluoride	mg/L	MW-11	4	0.153	0.025	1.176	0.123	0.182	4.000	
Fluoride	mg/L	MW-12	4	0.143	0.017	1.176	0.122	0.163	4.000	
Fluoride	mg/L	MW-13	4	0.725	0.061	1.176	0.653	0.797	4.000	
Fluoride	mg/L	MW-2R	4	1.310	1.374	1.176	0.000	2.926	4.000	
Fluoride	mg/L	MW-3	4	0.190	0.110	1.176	0.060	0.320	4.000	
Fluoride	mg/L	MW-4C	4	0.730	1.181	1.176	0.000	2.119	4.000	
Lead, total	ug/L	MW-10	4	6.375	2.750	1.176	3.140	9.610	15.000	
Lead, total	ug/L	MW-11	4	8.100	3.711	1.176	3.735	12.465	15.000	
Lead, total	ug/L	MW-12	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lead, total	ug/L	MW-13	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lead, total	ug/L	MW-2R	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lead, total	ug/L	MW-3	4	5.000	0.000	1.176	5.000	5.000	15.000	

* - 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

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Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Lead, total	ug/L	MW-4C	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lithium, total	ug/L	MW-10	4	48.075	8.843	1.176	37.673	58.477	40.000	
Lithium, total	ug/L	MW-11	4	50.000	0.000	1.176	50.000	50.000	40.000	
Lithium, total	ug/L	MW-12	4	50.000	0.000	1.176	50.000	50.000	40.000	
Lithium, total	ug/L	MW-13	4	196.400	225.111	1.176	0.000	461.195	40.000	
Lithium, total	ug/L	MW-2R	4	740.500	191.495	1.176	515.247	965.753	40.000	
Lithium, total	ug/L	MW-3	4	1745.000	157.797	1.176	1559.385	1930.615	40.000	
Lithium, total	ug/L	MW-4C	4	305.500	51.798	1.176	244.571	366.429	40.000	
Mercury, total	ug/L	MW-10	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-11	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-12	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-13	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-2R	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-3	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total	ug/L	MW-4C	4	0.100	0.000	1.176	0.100	0.100	2.000	
Molybdenum, total	ug/L	MW-10	4	20.400	5.429	1.176	14.014	26.786	100.000	
Molybdenum, total	ug/L	MW-11	4	50.000	0.000	1.176	50.000	50.000	100.000	
Molybdenum, total	ug/L	MW-12	4	50.000	0.000	1.176	50.000	50.000	100.000	
Molybdenum, total	ug/L	MW-13	4	61.350	16.527	1.176	41.909	80.791	100.000	
Molybdenum, total	ug/L	MW-2R	4	11.450	1.066	1.176	10.196	12.704	100.000	
Molybdenum, total	ug/L	MW-3	4	527.750	19.889	1.176	504.354	551.146	100.000	
Molybdenum, total	ug/L	MW-4C	4	50.000	0.000	1.176	50.000	50.000	100.000	
Radium 226/228 Combined	pCi/L	MW-10	4	1.055	0.432	1.176	0.547	1.563	5.000	
Radium 226/228 Combined	pCi/L	MW-11	4	0.802	0.398	1.176	0.333	1.271	5.000	
Radium 226/228 Combined	pCi/L	MW-12	4	0.584	0.168	1.176	0.387	0.781	5.000	
Radium 226/228 Combined	pCi/L	MW-13	4	0.565	0.000	1.176	0.565	0.565	5.000	
Radium 226/228 Combined	pCi/L	MW-2R	4	0.900	0.519	1.176	0.289	1.511	5.000	
Radium 226/228 Combined	pCi/L	MW-3	4	1.669	0.713	1.176	0.830	2.508	5.000	
Radium 226/228 Combined	pCi/L	MW-4C	4	1.265	0.650	1.176	0.500	2.030	5.000	
Selenium, total	ug/L	MW-10	4	2.200	0.600	1.176	1.494	2.906	50.000	
Selenium, total	ug/L	MW-11	4	3.325	0.995	1.176	2.155	4.495	50.000	
Selenium, total	ug/L	MW-12	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total	ug/L	MW-13	4	6.475	2.287	1.176	3.785	9.165	50.000	
Selenium, total	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total	ug/L	MW-3	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total	ug/L	MW-4C	4	2.500	0.000	1.176	2.500	2.500	50.000	
Thallium, total	ug/L	MW-10	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total	ug/L	MW-11	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total	ug/L	MW-12	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total	ug/L	MW-13	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	2.000	
Thallium, total	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	2.000	

* - Insufficient Data
** - 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

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Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	5.1	67.1347	1	2	10	20	5	10	20	0.67	100	8.6	2	4.46
MW-2R	September 2018	3	0	34	1	1	5	10	2.5	5	**818**	0	50	1	2	0.114
	May 2019	3	0	29	1	1	5	4	2.5	5	**638**	0	17	2	2	0.194
	November 2019	3	3	28	1	1	5	2	2.5	5	**477**	0	17	2	2	0.179
	May 2020	3	8	36	1	1	5	1	0.505	5	**490**	0	5	2	2	0.366
	November 2020	3	7	36	1	1	5	3	0	5	**486**	0	0	2	2	0.543
	May 2021	3	6	40	1	1	5	3	0	5	**424**	0	0	2	2	0.453
	November 2021	2.500	5.754 7.311 (N=8)	40.523	0.500	1.000	5.000	2.294	0	5.000	**515.247**	0.100	10.196	2.500	2.500	0.289
MW-3	September 2018	3	5	35	2	2	5	10	2.5	5	**1624**	0	**328**	2	2	0.311
	May 2019	3	2	30	2	1	5	3	0.564	0	**1204**	0	**291**	2	2	0.211
	November 2019	3	4	30	2	1	5	1	0	0	**1343**	0	**334**	2	2	0
	May 2020	2	6	31	1	1	5	0	0	0	**1140**	0	**367**	2	2	0
	November 2020	2	**10.3**	30	1	1	5	2	0.096	0	**1274**	0	**367**	2	2	0
	May 2021	2	**11**	37	1	1	5	2	0.076	5	**1554**	0	**510**	2	1	0.575
	November 2021	2.500	**15.704**	36.317	0.500	1.000	5.000	1.967	0.06	5.000	**1559.385**	0.100	**504.354**	2.500	1.000	0.83
MW-4C	September 2018	3	5	16	2	2	5	10	2.5	5	**228**	0	50	2	2	0.055
	May 2019	3	5	16	2	1	5	2	0.497	5	**225**	0	50	2	2	0.096
	November 2019	3	5	16	2	1	5	2	0	5	**251**	0	50	2	2	0.403
	May 2020	3	2	27	1	1	5	2	0	5	**245**	0	50	2	2	0.403
	November 2020	2	2	26	1	1	5	0	0.092	5	**246**	0	50	2	2	0.352
	May 2021	2	2	28	1	1	5	0	0	5	**236**	0	50	2	1	0.189
	November 2021	2.500	2.500	28.04	0.500	1.000	5.000	0	0	5.000	**244.571**	0.100	50.000	2.500	1.000	0.500

Final Date: 5/11/2022

Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	5.1	67.1347	1	2	10	20	5	10	20	0.67	100	8.6	2	4.46
MW-10	September 2018	3	**48**	59	1	1	5	5	2.5	5	50	0	50	2	2	0.390
	May 2019	3	**33**	37	1	1	5	5	0.572	5	50	0	50	2	2	0.390
	November 2019	2	**17**	25	0	1	0	5	0	0	49	0	29	2	2	0.457
	May 2020	2	**30**	25	0	1	5	3	0	0	47	0	18	2	2	0.489
	November 2020	2	**40**	27	0	1	5	2	0.241	0	**41**	0	10	2	2	0.487
	May 2021	2	**88**	55	0	1	3	2	0.413	0	37	0	16	1	2	1.127
	November 2021	3.000	**94.510**	57.921	0.196	0.500	2.937	2.583 4.001 (N=8)	0.413	3.14	37.673 **40.858 (N=5)** 27.804 (N=6) 44.919 (N=8)[1]	0.100	14.014	1.494	2.500	0.547
MW-11	September 2018	3	5	25	1	1	5	10	2.5	5	50	0	50	2	2	0.133
	May 2019	3	5	27	1	1	5	10	0.522	5	50	0	50	2	2	0.042
	November 2019	3	4	19	0	1	3	3	0	5	50	0	50	2	2	0
	May 2020	3	4	21	0	1	5	3	0	5	50	0	50	2	2	0
	November 2020	3	4	19	0	1	5	1	0.126	3	50	0	50	2	2	0
	May 2021	3	4	26	0	1	5	1	0.115	3	50	0	50	2	2	0
	November 2021	3.000	3.544	25.623	0.416	1.000	0	2.096 4.863 (N=8)	0.123	3.735	50	0.100	50.000	2.155	2.500	0.333
MW-12	September 2018	3	5	25	1	1	5	10	0.25	5	50	0	50	2	2	0
	May 2019	3	5	25	1	1	5	10	0.149	5	50	0	50	2	2	0
	November 2019	3	5	23	1	1	5	10	0.109	5	50	0	50	2	2	0.144
	May 2020	3	5	25	1	1	5	10	0.101	5	50	0	50	2	2	0.144
	November 2020	3	5	27	1	1	5	10	0.125	5	50	0	50	2	2	0.386
	May 2021	3	3	25	1	1	5	3	0.119	5	50	0	50	2	2	0.377
	November 2021	3.000	1.474	27.746	0.500	1.000	5.000	2.708 6.852 (N=8)[1]	0.122	5.000	50	0.100	50.000	2.500	2.500	0.387

Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01112

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through November 2021)	5	5.1	67.1347	1	2	10	20	5	10	20	0.67	100	8.6	2	4.46
MW-13	September 2018	3	5	9	1	1	5	10	1.075	5	0	0	50	1	2	0.108
	May 2019	3	5	7	1	1	5	10	0.983	5	0	0	48	0	2	0
	November 2019	1	5	7	1	1	5	10	0.318	5	32	0	39	0	2	0
	May 2020	1	5	18	1	1	5	10	0.054	5	30	0	39	1	2	0.435
	November 2020	1	5	18	1	1	5	10	0.613	5	0	0	33	2	2	0.435
	May 2021	1	5	17	1	1	5	10	0.597	5	0	0	32	2	2	0.522
	November 2021	3.000	5.000	16.575	0.500	1.000	5.000	10	0.653	5.000	0 0 (N=6) 0 (N=8)	0.100	41.909	3.785	2.500	0.565

Notes:
GWPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level based on National Primary Drinking Water Regulations
LCL = Lower Confidence Limit
Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.
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.
Bold font with gold shading indicates 95% LCL of the mean based on a qualitative evaluation of dataset that didnt trigger a mean/LCL conflict but visually warranted evaluation of a larger dataset. 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 as GWPS.
1 - Exceedance not declared due to historic elevated non-detect reporting limits being the primary factor in LCL exceedance calculated over the last 8 samples.
2 - 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.
DUMPStat summary table output limits the number of significant digits reported for a calculated LCL. An exceedingly small calculated LCL value (e.g. 0.00001 mg/L) may simply be reported as 0 in the output summary.
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.

Final Date: 5/11/2022

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	MW-10	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total (Federal)	ug/L	MW-11	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, total (Federal)	ug/L	MW-12	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, total (Federal)	ug/L	MW-13	4	3.000	0.000	1.176	3.000	3.000	6.000	
Antimony, total (Federal)	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	6.000	
Antimony, total (Federal)	ug/L	MW-3	4	0.700	0.000	1.176	0.700	0.700	6.000	
Antimony, total (Federal)	ug/L	MW-4C	4	2.500	0.000	1.176	2.500	2.500	6.000	
Arsenic, total (Federal)	ug/L	MW-10	4	95.300	11.461	1.176	81.819	108.781	10.000	
Arsenic, total (Federal)	ug/L	MW-11	4	8.550	4.256	1.176	3.544	13.556	10.000	
Arsenic, total (Federal)	ug/L	MW-12	4	2.600	1.813	1.176	0.467	4.733	10.000	
Arsenic, total (Federal)	ug/L	MW-13	4	2.500	0.000	1.176	2.500	2.500	10.000	
Arsenic, total (Federal)	ug/L	MW-2R	4	10.325	4.279	1.176	5.292	15.358	10.000	
Arsenic, total (Federal)	ug/L	MW-3	4	17.550	2.359	1.176	14.776	20.324	10.000	
Arsenic, total (Federal)	ug/L	MW-4C	4	0.600	0.000	1.176	0.600	0.600	10.000	
Barium, total (Federal)	ug/L	MW-10	4	94.500	21.490	1.176	69.221	119.779	2000.000	
Barium, total (Federal)	ug/L	MW-11	4	65.625	34.118	1.176	25.492	105.758	2000.000	
Barium, total (Federal)	ug/L	MW-12	4	33.150	6.315	1.176	25.721	40.579	2000.000	
Barium, total (Federal)	ug/L	MW-13	4	23.350	4.895	1.176	17.593	29.107	2000.000	dec
Barium, total (Federal)	ug/L	MW-2R	4	47.200	4.540	1.176	41.859	52.541	2000.000	
Barium, total (Federal)	ug/L	MW-3	4	42.475	8.394	1.176	32.601	52.349	2000.000	inc
Barium, total (Federal)	ug/L	MW-4C	4	29.150	1.967	1.176	26.836	31.464	2000.000	
Beryllium, total (Federal)	ug/L	MW-10	4	0.793	0.407	1.176	0.313	1.272	4.000	
Beryllium, total (Federal)	ug/L	MW-11	4	0.723	0.261	1.176	0.416	1.029	4.000	
Beryllium, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total (Federal)	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total (Federal)	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	4.000	
Beryllium, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	4.000	
Cadmium, total (Federal)	ug/L	MW-10	4	0.430	0.140	1.176	0.265	0.595	5.000	
Cadmium, total (Federal)	ug/L	MW-11	4	0.500	0.000	1.176	0.500	0.500	5.000	
Cadmium, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	5.000	
Cadmium, total (Federal)	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	5.000	
Cadmium, total (Federal)	ug/L	MW-2R	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total (Federal)	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	5.000	
Cadmium, total (Federal)	ug/L	MW-4C	4	0.970	0.060	1.176	0.899	1.041	5.000	
Chromium, total (Federal)	ug/L	MW-10	4	6.600	3.003	1.176	3.067	10.133	100.000	
Chromium, total (Federal)	ug/L	MW-11	4	9.625	9.250	1.176	0.000	20.506	100.000	
Chromium, total (Federal)	ug/L	MW-12	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total (Federal)	ug/L	MW-13	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total (Federal)	ug/L	MW-2R	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total (Federal)	ug/L	MW-3	4	5.000	0.000	1.176	5.000	5.000	100.000	
Chromium, total (Federal)	ug/L	MW-4C	4	5.000	0.000	1.176	5.000	5.000	100.000	
Cobalt, total (Federal)	ug/L	MW-10	4	3.900	1.120	1.176	2.583	5.217	6.000	
Cobalt, total (Federal)	ug/L	MW-11	4	6.650	3.872	1.176	2.096	11.204	6.000	
Cobalt, total (Federal)	ug/L	MW-12	4	7.825	4.350	1.176	2.708	12.942	6.000	
Cobalt, total (Federal)	ug/L	MW-13	4	10.000	0.000	1.176	10.000	10.000	6.000	
Cobalt, total (Federal)	ug/L	MW-2R	4	2.875	0.479	1.176	2.312	3.438	6.000	
Cobalt, total (Federal)	ug/L	MW-3	4	2.075	0.206	1.176	1.833	2.317	6.000	
Cobalt, total (Federal)	ug/L	MW-4C	4	3.325	4.451	1.176	0.000	8.560	6.000	
Fluoride (Federal)	mg/L	MW-10	4	0.405	0.118	1.176	0.266	0.544	4.000	
Fluoride (Federal)	mg/L	MW-11	4	0.420	0.554	1.176	0.000	1.071	4.000	
Fluoride (Federal)	mg/L	MW-12	4	0.165	0.058	1.176	0.097	0.233	4.000	
Fluoride (Federal)	mg/L	MW-13	4	0.678	0.116	1.176	0.541	0.814	4.000	
Fluoride (Federal)	mg/L	MW-2R	4	1.905	1.190	1.176	0.505	3.305	4.000	
Fluoride (Federal)	mg/L	MW-3	4	0.728	1.182	1.176	0.000	2.118	4.000	
Fluoride (Federal)	mg/L	MW-4C	4	1.310	1.374	1.176	0.000	2.926	4.000	
Lead, total (Federal)	ug/L	MW-10	4	7.075	2.637	1.176	3.973	10.177	15.000	
Lead, total (Federal)	ug/L	MW-11	4	8.100	3.711	1.176	3.735	12.465	15.000	
Lead, total (Federal)	ug/L	MW-12	4	4.025	1.950	1.176	1.731	6.319	15.000	
Lead, total (Federal)	ug/L	MW-13	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lead, total (Federal)	ug/L	MW-2R	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lead, total (Federal)	ug/L	MW-3	4	5.000	0.000	1.176	5.000	5.000	15.000	

* - 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

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* - 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 (Federal)	ug/L	MW-4C	4	5.000	0.000	1.176	5.000	5.000	15.000	
Lithium, total (Federal)	ug/L	MW-10	4	47.075	9.226	1.176	36.223	57.927	40.000	
Lithium, total (Federal)	ug/L	MW-11	4	50.000	0.000	1.176	50.000	50.000	40.000	
Lithium, total (Federal)	ug/L	MW-12	4	50.000	0.000	1.176	50.000	50.000	40.000	
Lithium, total (Federal)	ug/L	MW-13	4	203.700	214.809	1.176	0.000	456.377	40.000	
Lithium, total (Federal)	ug/L	MW-2R	4	805.250	189.056	1.176	582.865	1027.635	40.000	
Lithium, total (Federal)	ug/L	MW-3	4	1855.000	85.440	1.176	1754.498	1955.502	40.000	
Lithium, total (Federal)	ug/L	MW-4C	4	355.500	64.933	1.176	279.120	431.880	40.000	
Mercury, total (Federal)	ug/L	MW-10	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-11	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-12	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-13	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-2R	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-3	4	0.100	0.000	1.176	0.100	0.100	2.000	
Mercury, total (Federal)	ug/L	MW-4C	4	0.100	0.000	1.176	0.100	0.100	2.000	
Molybdenum, total (Federal)	ug/L	MW-10	4	18.775	5.975	1.176	11.746	25.804	100.000	
Molybdenum, total (Federal)	ug/L	MW-11	4	37.750	24.500	1.176	8.931	66.569	100.000	
Molybdenum, total (Federal)	ug/L	MW-12	4	50.000	0.000	1.176	50.000	50.000	100.000	
Molybdenum, total (Federal)	ug/L	MW-13	4	58.575	19.902	1.176	35.165	81.985	100.000	
Molybdenum, total (Federal)	ug/L	MW-2R	4	11.075	1.204	1.176	9.659	12.491	100.000	
Molybdenum, total (Federal)	ug/L	MW-3	4	463.750	128.710	1.176	312.350	615.150	100.000	
Molybdenum, total (Federal)	ug/L	MW-4C	4	39.450	21.100	1.176	14.630	64.270	100.000	
Selenium, total (Federal)	ug/L	MW-10	4	2.000	0.600	1.176	1.294	2.706	50.000	
Selenium, total (Federal)	ug/L	MW-11	4	3.600	0.913	1.176	2.526	4.674	50.000	
Selenium, total (Federal)	ug/L	MW-12	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total (Federal)	ug/L	MW-13	4	6.550	2.195	1.176	3.968	9.132	50.000	
Selenium, total (Federal)	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total (Federal)	ug/L	MW-3	4	2.500	0.000	1.176	2.500	2.500	50.000	
Selenium, total (Federal)	ug/L	MW-4C	4	2.500	0.000	1.176	2.500	2.500	50.000	
Thallium, total (Federal)	ug/L	MW-10	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total (Federal)	ug/L	MW-11	4	0.500	0.000	1.176	0.500	0.500	2.000	
Thallium, total (Federal)	ug/L	MW-12	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total (Federal)	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	2.000	
Thallium, total (Federal)	ug/L	MW-2R	4	2.500	0.000	1.176	2.500	2.500	2.000	
Thallium, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	2.000	
Thallium, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	2.000	
Total Radium (Federal)	pCi/L	MW-10	4	1.048	0.428	1.176	0.544	1.551	5.000	
Total Radium (Federal)	pCi/L	MW-11	4	0.710	0.420	1.176	0.216	1.204	5.000	
Total Radium (Federal)	pCi/L	MW-12	4	0.584	0.168	1.176	0.387	0.781	5.000	
Total Radium (Federal)	pCi/L	MW-13	4	0.597	0.065	1.176	0.521	0.673	5.000	
Total Radium (Federal)	pCi/L	MW-2R	4	0.952	0.544	1.176	0.313	1.592	5.000	
Total Radium (Federal)	pCi/L	MW-3	4	1.534	0.731	1.176	0.674	2.394	5.000	
Total Radium (Federal)	pCi/L	MW-4C	4	1.430	0.442	1.176	0.911	1.949	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

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* - Insufficient Data
** - Significant Exceedance
LCL = Lower Confidence Limit
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Table 1: 95% LCL Compared to GWPS
Petersburg RWS I Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01279

Sample ID	Through Sample Date	Antimony, Total	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Cobalt, Total	Fluoride	Lead, Total	Lithium, Total	Mercury, Total	Molybdenum, Total	Selenium, Total	Thallium, Total	Radium 226/228 Combined
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	pCi/L
	GWPS (greater of MCL/USEPA Amendment Level, or background PL)	**6**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2022)	1.4	5.1	66.4172	1	2	10	20	5	10	20	0.67	100	8.6	1	2.6
MW-2R	September 2018	3	0	34	1	1	5	10	2.5	5	**818**	0	50	1	2	0.114
	May 2019	3	0	29	1	1	5	4	2.5	5	**638**	0	17	2	2	0.194
	November 2019	3	3	28	1	1	5	2	2.5	5	**477**	0	17	2	2	0.179
	May 2020	3	8	36	1	1	5	1	0.505	5	**490**	0	5	2	2	0.366
	November 2020	3	7	36	1	1	5	3	0	5	**486**	0	0	2	2	0.543
	May 2021	3	6	40	1	1	5	3	0	5	**424**	0	0	2	2	0.453
	November 2021	2.500	5.754 7.311 (N=8)	40.523	0.500	1.000	5.000	2.294	0	5.000	**515.247**	0.100	10.196	2.500	2.500	0.289
	May 2022	2.500	5.292 8.366 (N=9)	41.859	0.500	1.000	5.000	2.312	0.505	5.000	**582.865**	0.100	9.659	2.500	2.500	0.313
MW-3	September 2018	3	5	35	2	2	5	10	2.5	5	**1624**	0	**328**	2	2	0.311
	May 2019	3	2	30	2	1	5	3	0.564	0	**1204**	0	**291**	2	2	0.211
	November 2019	3	4	30	2	1	5	1	0	0	**1343**	0	**334**	2	2	0
	May 2020	2	6	31	1	1	5	0	0	0	**1140**	0	**367**	2	2	0
	November 2020	2	**10.3**	30	1	1	5	2	0.096	0	**1274**	0	**367**	2	2	0
	May 2021	2	**11**	37	1	1	5	2	0.076	5	**1554**	0	**510**	2	1	0.575
	November 2021	2.500	**15.704**	36.317	0.500	1.000	5.000	1.967	0.06	5.000	**1559.385**	0.100	**504.354**	2.500	1.000	0.83
	May 2022	0.700	**14.776**	32.601	0.500	1.000	5.000	1.833	0	5.000	**1754.498**	0.100	**312.35**	2.500	0.500	0.674
MW-4C	September 2018	3	5	16	2	2	5	10	2.5	5	**228**	0	50	2	2	0.055
	May 2019	3	5	16	2	1	5	2	0.497	5	**225**	0	50	2	2	0.096
	November 2019	3	5	16	2	1	5	2	0	5	**251**	0	50	2	2	0.403
	May 2020	3	2	27	1	1	5	2	0	5	**245**	0	50	2	2	0.403
	November 2020	2	2	26	1	1	5	0	0.092	5	**246**	0	50	2	2	0.352
	May 2021	2	2	28	1	1	5	0	0	5	**236**	0	50	2	1	0.189
	November 2021	2.500	2.500	28.04	0.500	1.000	5.000	0	0	5.000	**244.571**	0.100	50.000	2.500	1.000	0.500
	May 2022	2.500	0.600	26.836	0.500	0.899	5.000	0	0	5.000	**279.12**	0.100	14.630	2.500	0.500	0.911

Final Date: 10/25/2022

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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**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2022)	1.4	5.1	66.4172	1	2	10	20	5	10	20	0.67	100	8.6	1	2.6
MW-10	September 2018	3	**48**	59	1	1	5	5	2.5	5	50	0	50	2	2	0.390
	May 2019	3	**33**	37	1	1	5	5	0.572	5	50	0	50	2	2	0.390
	November 2019	2	**17**	25	0	1	0	5	0	0	49	0	29	2	2	0.457
	May 2020	2	**30**	25	0	1	5	3	0	0	47	0	18	2	2	0.489
	November 2020	2	**40**	27	0	1	5	2	0.241	0	**41**	0	10	2	2	0.487
	May 2021	2	**88**	55	0	1	3	2	0.413	0	37	0	16	1	2	1.127
	November 2021	3.000	**94.510**	57.921	0.196	0.500	2.937	2.583 4.001 (N=8)	0.413	3.14	37.673 **40.858 (N=5)** 27.804 (N=6) 44.919 (N=8)	0.100	14.014	1.494	2.500	0.547
	May 2022	3.000	**81.819**	69.221	0.313	0.265	3.067	2.583	0.266	3.973	36.223 **44.576 (N=8)**	0.100	11.746	1.294	2.500	0.544
MW-11	September 2018	3	5	25	1	1	5	10	2.5	5	50	0	50	2	2	0.133
	May 2019	3	5	27	1	1	5	10	0.522	5	50	0	50	2	2	0.042
	November 2019	3	4	19	0	1	3	3	0	5	50	0	50	2	2	0
	May 2020	3	4	21	0	1	5	3	0	5	50	0	50	2	2	0
	November 2020	3	4	19	0	1	5	1	0.126	3	50	0	50	2	2	0
	May 2021	3	4	26	0	1	5	1	0.115	3	50	0	50	2	2	0
	November 2021	3.000	3.544	25.623	0.416	1.000	0	2.096 4.863 (N=8)	0.123	3.735	50	0.100	50.000	2.155	2.500	0.333
	May 2022	2.500	3.544	25.492	0.416	0.500	0	2.096 4.863 (N=8) 7.409 (N=16)[1]	0	3.735	50	0.100	8.931	2.526	0.500	0.216
MW-12	September 2018	3	5	25	1	1	5	10	0.25	5	50	0	50	2	2	0
	May 2019	3	5	25	1	1	5	10	0.149	5	50	0	50	2	2	0
	November 2019	3	5	23	1	1	5	10	0.109	5	50	0	50	2	2	0.144
	May 2020	3	5	25	1	1	5	10	0.101	5	50	0	50	2	2	0.144
	November 2020	3	5	27	1	1	5	10	0.125	5	50	0	50	2	2	0.386
	May 2021	3	3	25	1	1	5	3	0.119	5	50	0	50	2	2	0.377
	November 2021	3.000	1.474	27.746	0.500	1.000	5.000	2.708 6.852 (N=8)[1]	0.122	5.000	50	0.100	50.000	2.500	2.500	0.387
	May 2022	2.500	0.467	25.721	0.500	0.500	5.000	2.708 6.852 (N=8)[1]	0.097	1.731	50	0.100	50.000	2.500	2.500	0.387

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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**	**10**	**2000**	**4**	**5**	**100**	**6****	**4****	**15**	**40**	**2**	**100**	**50**	**2**	**5**
	MCL	6	10	2000	4	5	100	-	4	15	-	2	-	50	2	5
	USEPA'S Amendments to the National Minimum Criteria*	-	-	-	-	-	-	6	-	15	40	-	100	-	-	-
	Prediction Limit (based on background data through May 2022)	1.4	5.1	66.4172	1	2	10	20	5	10	20	0.67	100	8.6	1	2.6
MW-13	September 2018	3	5	9	1	1	5	10	1.075	5	0	0	50	1	2	0.108
	May 2019	3	5	7	1	1	5	10	0.983	5	0	0	48	0	2	0
	November 2019	1	5	7	1	1	5	10	0.318	5	32	0	39	0	2	0
	May 2020	1	5	18	1	1	5	10	0.054	5	30	0	39	1	2	0.435
	November 2020	1	5	18	1	1	5	10	0.613	5	0	0	33	2	2	0.435
	May 2021	1	5	17	1	1	5	10	0.597	5	0	0	32	2	2	0.522
	November 2021	3.000	5.000	16.575	0.500	1.000	5.000	10	0.653	5.000	0 0 (N=6) 0 (N=8)	0.100	41.909	3.785	2.500	0.565
	May 2022	3.000	2.500	17.593	0.500	0.500	5.000	10	0.541	5.000	0 0 (N=8) **217.267 (N=16)**	0.100	35.165	3.968	0.500	0.521

Notes:
GWPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level based on National Primary Drinking Water Regulations
LCL = Lower Confidence Limit
Bold font with gray shading indicates 95% LCL of the mean of the last four measurements that is in exceedance of GWPS.
Bold font with green shading indicates 95% LCL of the mean of the last eight measurements that is in exceedance of GWPS.
Bold font with gold shading indicates 95% LCL of the mean based on a qualitative evaluation of dataset that didnt trigger a mean/LCL conflict but visually warranted evaluation of a larger 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 as GWPS.
1 - Exceedance not declared due to historic elevated non-detect reporting limits being the primary factor in LCL exceedance calculated over the evaluated sample set.
Background prediction limits are re-calculated after each sampling event. If a background prediction limit value is utilized as the GWPS, the GWPS for the current summary may be different from previous events.
The 95% LCL statistic is based on the rolling set of the four most recent individual sample results for a parameter.
LCL calculations utilize 1/2 the median non-detect (ND) reporting limit (RL) from the full date range of non-detect sample results. If RL levels changed over time, the current calculated LCL value may be larger than the most recent four ND results.
DUMPStat summary table output limits the number of significant digits reported for a calculated LCL. An exceedingly small calculated LCL value (e.g. 0.00001 mg/L) may simply be reported as 0 in the output summary.
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.