2023 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

RWS III LANDFILL

PETERSBURG GENERATING STATION

PREPARED FOR:
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January 30, 2024

January 30, 2024 Atlas Project No. 170LF01503

Mr. David M. Heger
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Re: 2023 CCR Annual Groundwater Monitoring and Corrective Action Report
Indianapolis Power & Light Company d/b/a AES Indiana (AESI)
Petersburg Generating Station – RWS III Landfill
Petersburg, Indiana
Atlas Project No. 170LF01503

Dear Mr. Heger:

Atlas Technical Consultants LLC (Atlas) has prepared this 2023 CCR Annual Groundwater Monitoring and Corrective Action Report for the Restricted Waste Site (RWS) Type III 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 includes information required by § 257.90(e)(1) through § 257.90(e)(6).

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

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following: (i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95; (ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95; (iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e): (A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and (B) Provide the date when the assessment monitoring program was initiated for the CCR unit. (iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following: (A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase; (B) Provide the date when the assessment of corrective measures was initiated for the CCR unit; (C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and (D) Provide the date when the assessment of corrective measures was completed for the CCR unit. (v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so,

the date of remedy selection; and (vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

Overview of 2023 Groundwater Monitoring and Corrective Action

For the duration of the 2023 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 2023.

At the end of the 2023 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	Lithium	Molybdenum
MW-3	MW-2R	MW-3
MW-10[2]	MW-3	
	MW-4C	
	MW-10	
	MW-13	

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. 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.

[1] SSLs provided are based on the May 2023 monitoring event as November 2023 sampling data was not finalized in 2023.

[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.

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 2023 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 monitoring equipment[3],and review of groundwater analytical results/data to improve the groundwater site conceptual model.

- November 2022 laboratory analytical reports were finalized and placed in the facility operating record pursuant to 40 CFR 257.95(d)(1).

- As part of additional groundwater monitoring system enhancement activities, bedrock monitoring wells MW-1A and MW-12A were installed between March 8 and March 16, 2023 and are detailed in the *Monitoring Well MW-1A and MW-12A Installation Report* (VFC# 83538700) submitted to the Indiana Department of Environmental Management (IDEM) on September 28, 2023. The wells are intended to supplement existing background well MW-1 after a minimum of four rounds of groundwater quality data are obtained, and the data is provided to IDEM for their review. With IDEM's approval, the wells will be added to the monitoring network.

- Groundwater samples were collected from monitoring wells MW-1A and MW-12A in April, June, August, and November 2023.

- AESI installed piezometer LF-PZ-1 south of the landfill in August 2023, and obtained groundwater water levels from LF-PZ-1 and nearby monitoring wells in August and September 2023 to better understand groundwater flow patterns when the White River level is low.

[3] Bedrock monitoring wells MW-1A and MW-12A were installed in March 2023; the wells will be evaluated for potential utilization as background/upgradient monitoring wells. Piezometer LF-PZ-1 was installed in August 2023. Well and piezometer locations are depicted on **Figure 2**.

- Collected groundwater samples from N&E monitoring well MW-15B during the May-June 2023 and November 2023 semi-annual events.

- Semi-annual assessment monitoring sampling events were conducted in 2023 as required by § 257.95(b) and § 257.95(d)(1). Pursuant to 40 CFR 257.95(b), each Appendix IV constituents was sampled in 2023. Pursuant to 40 CFR 257.95(d)(1), semi-annual sampling of each Appendix III parameter and Appendix IV constituent detected in response to 40 CFR 257.95(b) was conducted in 2023. Each sampling event was performed consistent with 40 CFR 257.93(e). Subsequent SSL evaluation of the November 2022 and May 2023 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 15, 2022 through March 20, 2023, and for the period of March 21, 2023 through September 21, 2023 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, Petersburg, Indiana. A Site Location Map is provided as **Figure 1**. A map showing the location of each CCR management unit, associated upgradient and downgradient CCR monitoring wells, N&E monitoring equipment installed between 2019 and 2023 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;

As described above bedrock monitoring wells MW-1A and MW-12A were installed between March 8 and March 16, 2023. The wells are intended to supplement existing background well MW-1 after a minimum of four rounds of groundwater quality data are obtained, and the data is provided to IDEM for their review. With IDEM's approval, the wells will be added to the monitoring network.

[4] Sampling results for the November 2022 and May 2023 semi-annual assessment monitoring events are summarized in **Table 3** and **Table 6**, respectively. Please refer to Section § 257.90(e)(4) on Page 11 of this report regarding SSL evaluation results.

AESI installed piezometer LF-PZ-1 south of the landfill in August 2023 to better understand groundwater flow patterns when the White River level is low.

Monitoring well MW-33D2 was sampled in May 2023. Monitoring wells MW-33D2, MW-35D1, MW-35SS, and MW-35D2 were sampled during the November 2023 sampling event.

No monitoring wells were abandoned during the 2023 reporting period.

The location of the CCR monitoring well network, enhancement wells, and N&E wells are depicted on **Figure 2**.

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

Table 1 provides a summary of the number of samples collected at each CCR monitoring well and N&E monitoring well/piezometer, 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-15B, MW-16, MW-20B, MW-20I, MW-20A, MW-24, and MW-33D2) groundwater analytical results for the November 2022 semi-annual sampling event are summarized in **Table 3**; these results were not finalized by the end of 2022 for inclusion in the associated 2022 Annual Report.

Sampling results from April 2023 for the new monitoring wells MW-1A and MW-12A are summarized in **Table 4;** the wells are currently being evaluated for potential incorporation into the monitoring network as additional up/gradient/background monitoring wells.

Assessment Monitoring, N&E well, and potential upgradient/background well (MW-1A, MW-12A, MW-14, MW-15, MW-15B, MW-16, MW-20B, MW-20I, MW-20A, MW-24, MW-33D2) groundwater analytical results for the May-June 2023 sampling event are summarized in **Table 5**.

MW-1A and MW-12A sampling results from August 2023 are summarized in **Table 6**.

Groundwater results for the November 2023 combined semi-annual assessment monitoring and N&E sampling event were not finalized in 2023 and therefore are not included with this submittal.

Potentiometric surface maps for the November 2022 sampling event are provided as **Figure 3** and **Figure 4**. Potentiometric surface maps for the May 2023 sampling event are provided as **Figure 5** and **Figure 6**. Flow rate vectors are depicted on the maps. Gauging summary tables

and flow velocity calculations for each event are provided as supporting documentation in **Appendix A**. Laboratory certificates of analysis are provided in **Appendix B.**

Statistical Evaluation Procedures

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

The CCR 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 Atlas' 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 each well and each parameter. The background database contains results from September 2016 through the respective November 2022 and May 2023 semi-annual events for the upgradient monitoring well, and from September 2016 through the respective November 2022 and May 2023 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 2023 as required by § 257.95(b) and § 257.95(d)(1). Pursuant to 40 CFR 257.95(b), each Appendix IV constituent was sampled in 2023. Pursuant to 40 CFR 257.95(d)(1), semi-annual sampling of each Appendix III

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

[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.

parameter and Appendix IV constituent detected in response to 40 CFR 257.95(b) was conducted in 2023. Each sampling event was performed consistent with 40 CFR 257.93(e). Subsequent SSL evaluation of the November 2022 and May 2023 data were performed within 90 days of completing the sampling and analysis pursuant to § 257.93(h)(2).

1.1 Background Data

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

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

Included in this attachment are summaries of the historical data for the Appendix IV statistically evaluated parameters for the PGS landfill. Historical data from groundwater sampling events were imported into the DUMPStat database. **Table C-1** in **Attachment C** 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**.

1.2 Defined Statistical Tests - Interwell Statistical Comparisons

While Appendix III detection monitoring continues during the completion of the Appendix IV assessment monitoring program, detection monitoring statistics were not completed in 2023, as the facility has entered into statistical evaluation of assessment monitoring parameters.

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.

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

1.3 False Positive Rates and Statistical Power

Included in 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.

1.4 Interwell Statistics Comparisons

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

1.5 Background Sample Size

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

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

In accordance with 257.95(a), as SSIs have previously been identified for one or more Appendix III constituents at one or more downgradient wells, an Appendix IV assessment monitoring program has been established. Prediction limits are calculated for each Appendix IV parameter. A groundwater protection standard (GWPS) for each Appendix IV parameter will also be established. The GWPS will be the larger of the background prediction limit, the regulatory standard (maximum contaminant level, MCL), or the USEPA Screening 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:

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

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

[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).

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

LCL = lower confidence limit for mean;

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

m = number of sample measurements;

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

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

The procedure for evaluating LCLs to the GWPS to identify if an exceedance exists is as follows.

A. LCL EVALUATION OF FOUR MOST RECENT DATA RESULTS (TYPICALLY THE MOST RECENT TWO YEARS OF DATA)

Procedurally, the first step in the analysis compares the LCL to the GWPS based on the four most recent results. During this initial step, the associated mean of the four data points is also compared to the GWPS. LCL exceedances will be identified. See step B for additional description.

For non-detect data, LCL calculations utilize 1/2 the median non-detect (ND) reporting limit (RL) from the well's cumulative 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.

B. MEAN VS. LCL QUANTITATIVE SCREENING EVALUATION

If a condition is identified where the *mean* exceeds the GWPS but the associated *LCL* does not, a concern is that, due either to the small sample size, an elevated standard deviation due to elevated sample result variability, the determination of no LCL GWPS exceedance may represent a "false negative" condition. For these isolated situations, an additional iteration of a larger dataset (typically N=8) is completed to determine if disagreement between the mean and LCL relative to the GWPS continues to exist. Prior to conducting the test, trend analysis was performed to verify stationality of the LCL data period. The longest data range of the most recent 5 to 8 samples that was technically appropriate to evaluate (no statistically significant trends) was utilized. If this condition could not be met, the LCL was not evaluated further.

Both the mean and LCL in this iteration are calculated based on the 8 most recent results (or alternate N=_ population). During the additional iteration, if both the mean and calculated LCL are determined to be above the GWPS, a preliminary exceedance may be considered valid. Conversely, if they are both below the GWPS, an exceedance is not declared. If a conflict is still present, the data would be evaluated in Step C.

C. QUALITATIVE VISUAL SCREENING EVALUATION

To better ensure that Steps A and B do not overlook a potential exceedance that exists if an even larger dataset were considered, Atlas will visually evaluate the confidence limit graphs and time series plots for these potential situations. If a dataset that meets stationality is identified, an

appropriate expanded dataset for that constituent/well pair will be evaluated for an LCL exceedance. Conflicts that aren't resolved in Step B are also carried over to Step C evaluation.

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

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

AESI Petersburg operated under the assessment monitoring program in accordance with § 257.95 during 2023. No transition between monitoring programs was conducted in 2023.

During 2023, statistical evaluations of the November 2022 and May 2023 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 June 2023 and October 2023, 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 the November 2022 and May 2023 semi-annual assessment monitoring events, respectively.

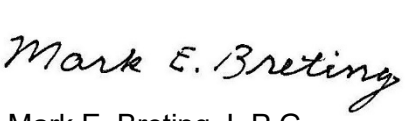
Projected key activities for the upcoming year include the following:

- Assessment monitoring sampling events in accordance with § 257.95 and consistent with § 257.90(e).
- Finalize November 2023 analytical data and complete statistical evaluation of November 2023 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 2024 assessment monitoring analytical data.
- Collect additional groundwater samples and prepare a report for IDEM that summarizes data obtained from proposed background wells MW-1A and MW-12A.
- After delineation of groundwater impacts is determined to be complete, begin preparing estimates quantity of Appendix IV material released.

- Prepare a Nature and Extent Report which will provide a comprehensive summary of data evaluation and Conceptual Site Model.
- Develop an updated Corrective Measure Assessment to account for the supplemental information collected since 2019 which is sourced from additional monitoring data, groundwater N&E investigations, CSM development, geochemical and site-specific investigations, groundwater modeling updates, and potential corrective measures evaluations.
- Potentially conduct a public meeting to discuss the results of the corrective measures assessment at least 30 days prior to the selection of remedy pursuant to § 257.96(e).
- Prepare semi-annual report(s) describing progress in selecting and designing the remedy pursuant to § 257.97(a).

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

Respectfully submitted,
Atlas Technical Consultants LLC



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



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

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

Figures

Figure 1: Site Location Map
Figure 2: Groundwater Monitoring System – CCR Network Wells and N&E Wells
Figure 3: Potentiometric Surface Map – Zone B - November 1, 2022
Figure 4: Potentiometric Surface Map – Zone A - November 1, 2022
Figure 5: Potentiometric Surface Map – Zone B – May 1, 2023
Figure 6: Potentiometric Surface Map – Zone A - May 1, 2023

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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 III 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

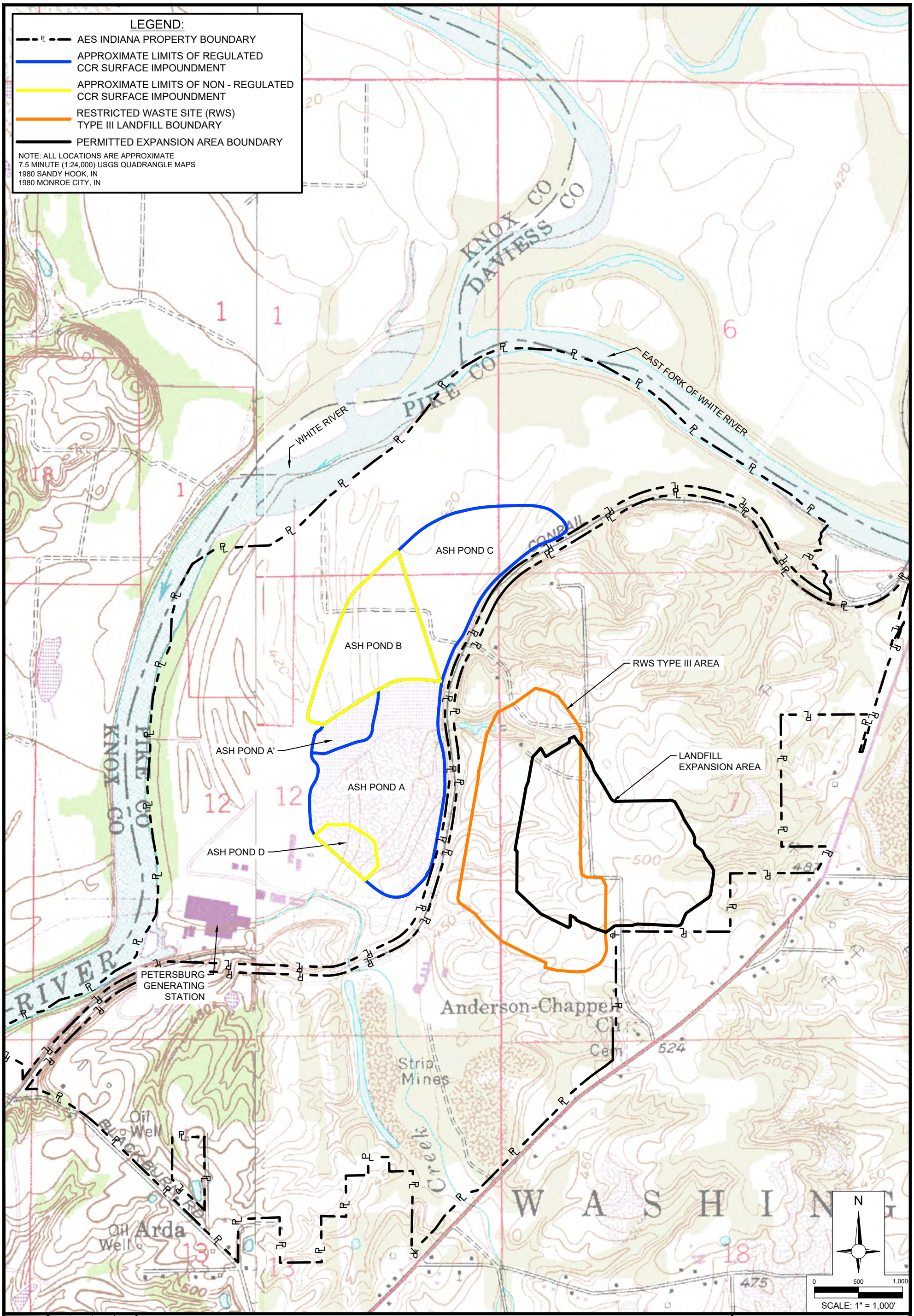


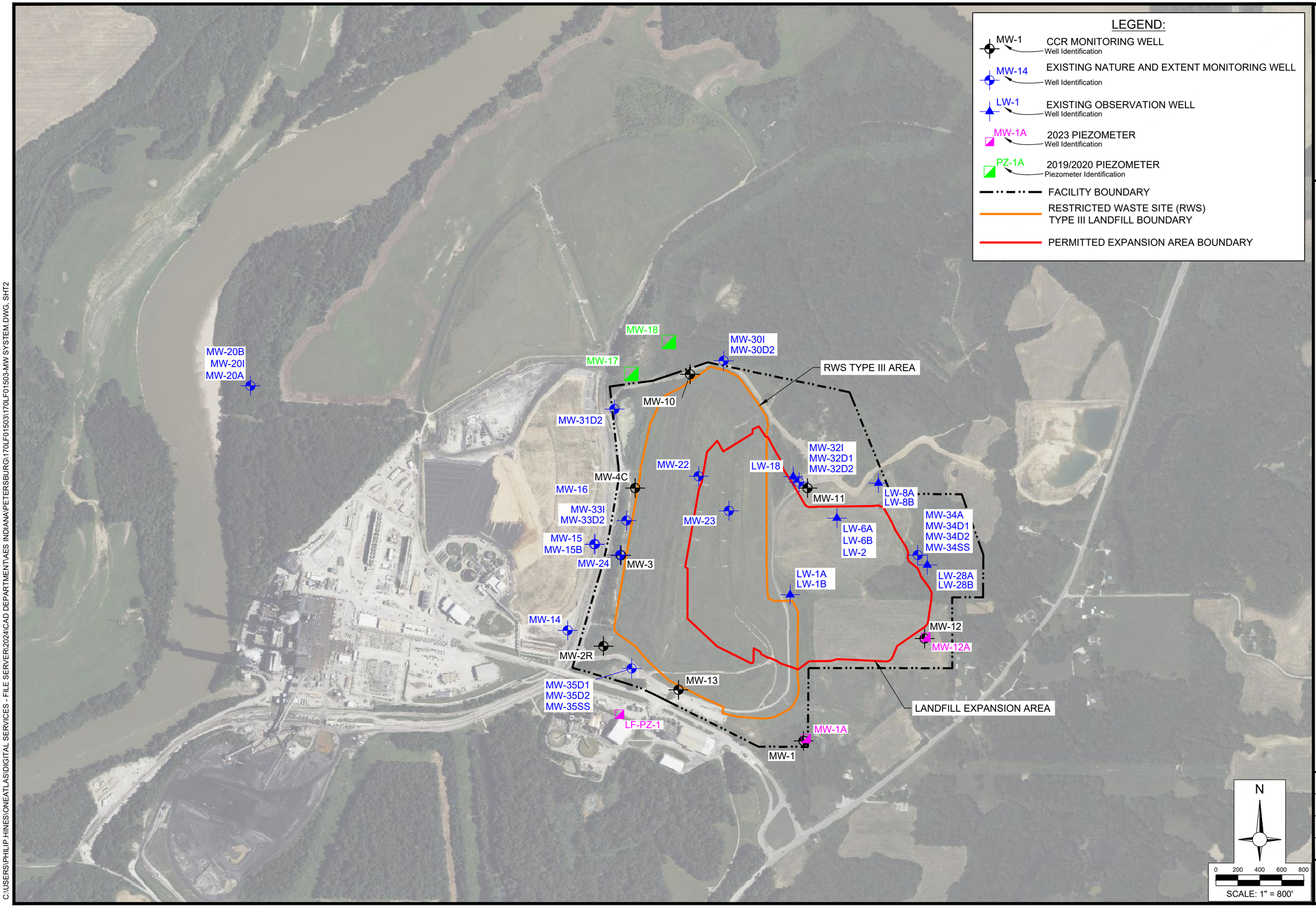
Figure: 1

Project Number: 170LF01503
Date: 01/19/2024
Drn. By: BM
Ckd. By: MB
Scale: AS SHOWN

SITE LOCATION MAP

RWS III LANDFILL
ASH POND SYSTEM
PETERSBURG, INDIANA

ATLAS



ATLAS

CCR GROUNDWATER MONITORING SYSTEM

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

Project Number: 170LF01503	
Date: 01/30/2024	
Drn. By: PH	Ckd. By: MB
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Figure: 2	

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LEGEND:

- MW-1 496.61 — IDEM PERMIT MONITORING WELL (Well Identification / Static Water Level)
- LW-6B 496.61 — 1991 LANDFILL OBSERVATION WELL (Well Identification / Static Water Level)
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- FACILITY BOUNDARY
- RESTRICTED WASTE SITE (RWS) TYPE III LANDFILL BOUNDARY
- PERMITTED EXPANSION AREA BOUNDARY

NOTES:
NG = NOT GAUGED
FR = FLOW RATE (FT/DAY)

MW-10 461.70
MW-4C 448.29
MW-3 440.41
MW-2R 436.03
MW-13 465.52
MW-1 497.31
MW-12 487.33
MW-11 486.10
LW-18
LW-6A
LW-8A LW-8B 493.27
LW-28A LW-28B 484.08
LW-1A LW-1B 486.45
FR1: 0.18
FR2: 0.33
440 445 450 455 460 465 470 475 480 485 490

N

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

POTENTIOMETRIC SURFACE MAP NOVEMBER 1, 2022 - ZONE B
PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
RWS TYPE III LANDFILL
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number:	170LF01503
Date:	01/30/2024
Drn. By:	PH
Ckd. By:	MB
Scale:	AS SHOWN
Figure:	3

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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
- FACILITY BOUNDARY
- RESTRICTED WASTE SITE (RWS) TYPE III LANDFILL BOUNDARY
- PERMITTED EXPANSION AREA BOUNDARY

NOTES:
NG = NOT GAUGED
FR = FLOW RATE (FT/DAY)

MW-10
MW-4C
MW-3
MW-2R
MW-13
MW-1
MW-11
MW-12
LW-18 462.25
LW-8A 463.12 LW-8B
LW-6A 475.12
LW-28A 487.08 LW-28B
LW-1A 488.05 LW-1B
465
470
475
480
485
FR1: 0.019

N

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

POTENTIOMETRIC SURFACE MAP NOVEMBER 1, 2022 - ZONE A
PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
RWS TYPE III LANDFILL
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number:	170LF01503
Date:	01/30/2024
Drn. By:	PH
Ckd. By:	MB
Scale:	AS SHOWN
Figure:	4

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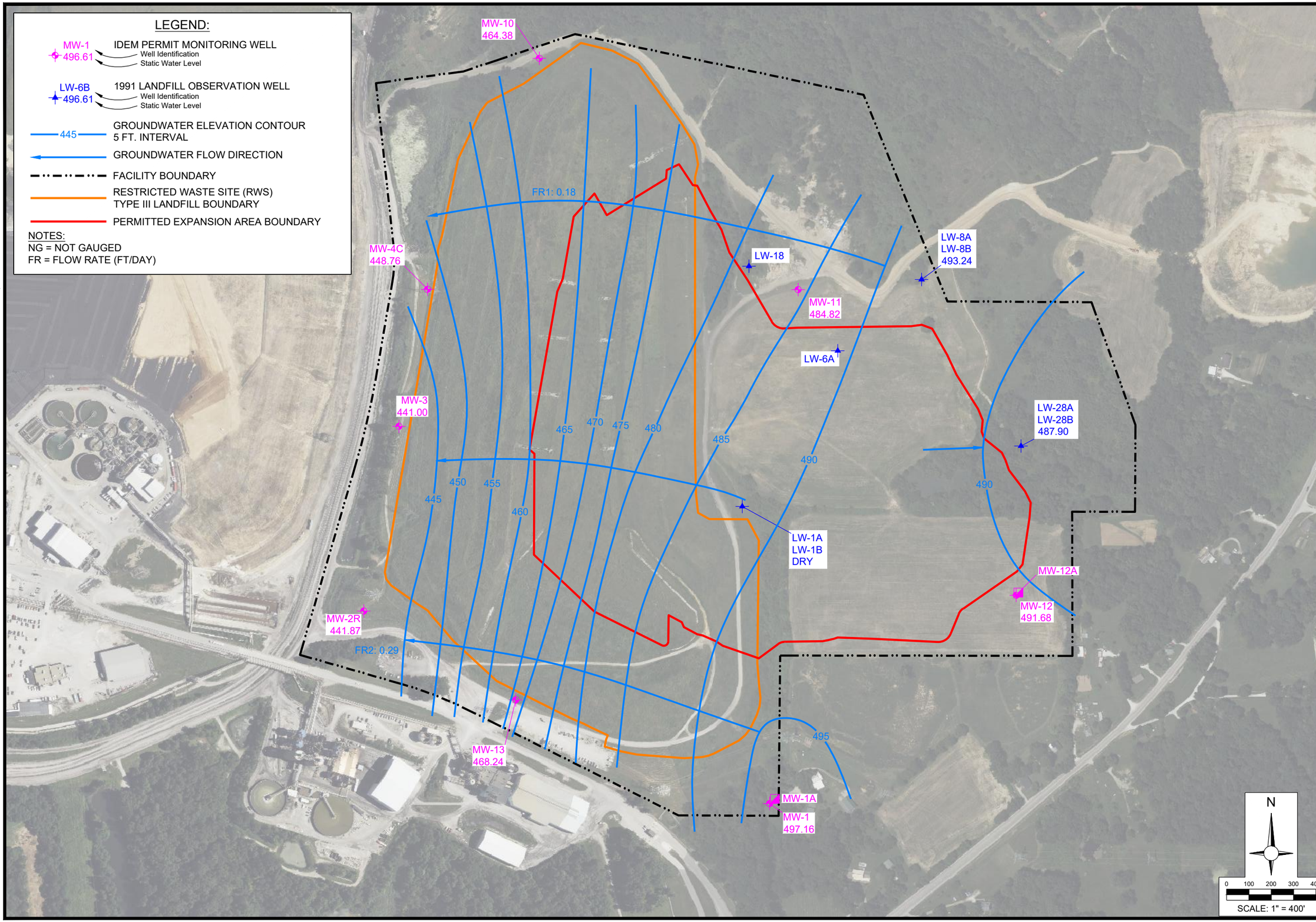

ATLAS

POTENTIOMETRIC SURFACE MAP MAY 1, 2023 - ZONE B
PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
RWS TYPE III LANDFILL
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number: 170LF01503	
Date: 01/30/2024	
Drn. By: PH	Ckd. By: MB
Scale: AS SHOWN	
Figure: 5	

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LEGEND:

- MW-1 / 496.61 — IDEM PERMIT MONITORING WELL (Well Identification / Static Water Level)
- MW-1A — 2023 PIEZOMETER (Well Identification)
- LW-6B — 1991 LANDFILL OBSERVATION WELL (Well Identification)
- 445 — GROUNDWATER ELEVATION CONTOUR 5 FT. INTERVAL
- GROUNDWATER FLOW DIRECTION
- FACILITY BOUNDARY
- RESTRICTED WASTE SITE (RWS) TYPE III LANDFILL BOUNDARY
- PERMITTED EXPANSION AREA BOUNDARY

NOTES:
NG = NOT GAUGED
FR = FLOW RATE (FT/DAY)

MW-10
MW-4C
MW-3
MW-2R
MW-13
MW-1
MW-1A 461.47
LW-18 462.39
LW-8A 461.76 LW-8B
MW-11
LW-6A 476.12
FR1: 0.018
LW-28A 485.91 LW-28B
LW-1A 490.91 LW-1B
MW-12A 489.09
MW-12
465
470
475
480
485
490
485
480
475
470
465

N

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

POTENTIOMETRIC SURFACE MAP MAY 1, 2023 - ZONE A
PETERSBURG STATION RWS LANDFILL

AES INDIANA PETERSBURG GENERATING STATION
RWS TYPE III LANDFILL
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number:	170LF01503
Date:	01/30/2024
Drn. By:	PH
Ckd. By:	MB
Scale:	AS SHOWN
Figure:	6

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Tables

Table 1: Well Sampling Summary
Table 2: Groundwater Elevation Data
Table 3: Summary of Monitoring Results – November-December 2022
Table 4: Summary of Monitoring Results – April 2023 (MW-1A and MW-12A)
Table 5: Summary of Monitoring Results – May-June 2023
Table 6: Summary of Monitoring Results – August 2023 (MW-1A and MW-12A)
Table 7: Groundwater Protection Standards Summary – November 2022 and May 2023

Table 1
Well Sampling Summary
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

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	3	11/7/2022 5/2/2023 11/5/2023	Assessment
MW-1A	3/14/2023	Upgradient	4	4/7/2023 6/6/2023 8/18/2023 11/1/2023	Assessment
MW-2R	MW-2 - 1986 MW-2R - 2/1/2017	Downgradient	3	11/7/2022 5/9/2023 11/8/2023	Assessment
MW-3	1986	Downgradient	3	11/7/2022 5/7/2023 11/8/2023	Assessment
MW-4C	9/29/1992	Downgradient	3	11/8/2022 5/9/2023 11/8/2023	Assessment
MW-10	1/30/2017	Downgradient	3	11/7/2022 5/2/2023 11/6/2023	Assessment
MW-11	1/25/2017	Downgradient	3	11/7/2022 5/2/2023 11/5/2023	Assessment
MW-12	1/26/2017	Downgradient	3	11/7/2022 5/2/2023 11/5/2023	Assessment
MW-12A	3/16/2023	Upgradient	4	4/7/2023 6/6/2023 8/17/2023 11/2/2023	Assessment
MW-13	1/31/2017	Downgradient	3	11/8/2022 5/2/2023 11/5/2023	Assessment
MW-14	4/3/2019	Nature & Extent	2	11/6/2022 5/7/2023	Assessment
MW-15B	9/6/2022	Nature & Extent	2	6/6/2023 11/15/2023	Assessment
MW-15	4/2/2019	Nature & Extent	3	11/6/2022 5/7/2023 11/5/2023	Assessment
MW-16	4/1/2019	Nature & Extent	3	11/7/2022 5/7/2023 11/6/2023	Assessment
MW-20B	4/21/2020	Nature & Extent	1	5/17/2023	Assessment
MW-20I	4/21/2020	Nature & Extent	3	11/6/2022 5/17/2023 11/2/2023	Assessment

Table 1
Well Sampling Summary
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Identification	Date Installed	Upgradient/Background, Downgradient, or Nature & Extent	Number of Samples	Sample Date	Detection or Assessment Monitoring Program
MW-20A	4/22/2020	Nature & Extent	3	11/6/2022 5/17/2023 11/2/2023	Assessment
MW-24	10/28/2020	Nature & Extent	3	11/18/2022 6/6/2023 11/21/2023	Assessment
MW-33D2	10/21/2021	Nature & Extent	3	12/21/2022 5/23/2023 11/21/2023	Assessment
MW-35D1	10/20/2021	Nature & Extent	1	11/22/2023	Assessment
MW-35SS	10/20/2021	Nature & Extent	1	11/28/2023	Assessment
MW-35D2	10/20/2021	Nature & Extent	1	11/29/2023	Assessment

Notes
MW-20B was dry in November 2022.
MW-14 and MW-20B were dry in November 2023.

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-1	11/1/2022	528.11	30.80	497.31
	5/1/2023		30.95	497.16
	8/28/2023		31.00	497.11
	9/12/2023		31.13	496.98
	11/1/2023		31.71	496.40
MW-1A	4/7/2023	529.36	68.30	461.06
	5/1/2023		67.89	461.47
	8/18/2023		69.40	459.96
	11/1/2023		69.84	459.52
MW-2R	11/1/2022	455.00	18.97	436.03
	5/1/2023		13.13	441.87
	8/28/2023		18.34	436.66
	9/12/2023		19.82	435.18
	11/1/2023		19.40	435.60
MW-3	11/1/2022	450.71	10.30	440.41
	5/1/2023		9.71	441.00
	8/28/2023		10.45	440.26
	9/12/2023		10.47	440.24
	11/1/2023		10.58	440.13
MW-4C	11/1/2022	454.44	6.15	448.29
	5/1/2023		5.68	448.76
	8/28/2023		5.96	448.48
	9/12/2023		6.19	448.25
	11/1/2023		6.38	448.06
MW-10	11/1/2022	502.38	40.68	461.70
	5/1/2023		38.00	464.38
	8/28/2023		40.52	461.86
	9/12/2023		40.73	461.65
	11/1/2023		41.51	460.87

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-11	11/1/2022	517.51	31.41	486.10
	3/2/2023		33.80	483.71
	5/1/2023		32.69	484.82
	8/28/2023		34.22	483.29
	9/12/2023		34.12	483.39
	11/1/2023		38.90	478.61
MW-12	11/1/2022	517.64	30.31	487.33
	5/1/2023		25.96	491.68
	7/21/2023		30.21	487.43
	8/28/2023		31.44	486.20
	9/12/2023		32.39	485.25
	11/1/2023		33.66	483.98
MW-12A	4/7/2023	516.97	29.09	487.88
	5/1/2023		27.88	489.09
	8/17/2023		32.02	484.95
	11/1/2023		34.57	482.40
MW-13	11/1/2022	480.97	15.45	465.52
	5/1/2023		12.73	468.24
	8/28/2023		15.65	465.32
	9/12/2023		15.95	465.02
	11/1/2023		17.32	463.65
MW-14	11/1/2022	443.37	17.60	418.86
	5/1/2023		16.77	426.60
	8/28/2023		17.56	418.90
	9/12/2023		17.97	418.49
	11/1/2023		Dry	NA
MW-15B	11/4/2022	444.69	11.1	433.59
	5/1/2023		10.41	434.28
	8/28/2023		10.70	433.99
	9/12/2023		11.95	432.74
	11/1/2023		11.38	433.31

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-15	11/1/2022	444.11	24.50	419.61
	5/1/2023		21.26	422.85
	8/28/2023		23.98	420.13
	9/12/2023		24.44	419.67
	11/1/2023		25.60	418.51
MW-16	11/1/2022	442.78	3.78	439.00
	5/1/2023		3.69	439.09
	8/28/2023		3.46	439.32
	9/12/2023		4.00	438.78
	11/1/2023		3.94	438.84
MW-17	11/1/2022	472.33	17.82	454.51
	5/1/2023		14.81	457.52
	8/28/2023		17.35	454.98
	9/12/2023		17.57	454.76
	11/1/2023		17.99	454.34
MW-18	11/1/2022	458.27	9.17	449.10
	5/1/2023		5.87	452.40
	8/28/2023		8.18	450.09
	9/12/2023		9.02	449.25
	11/1/2023		10.45	447.82
MW-20B	11/1/2022	423.97	Dry	NA
	5/1/2023		15.16	408.81
	8/28/2023		19.36	404.61
	9/12/2023		20.58	403.39
	11/1/2023		Dry	NA
MW-20I	11/1/2022	424.00	20.76	403.24
	5/1/2023		15.16	408.84
	11/1/2023		21.42	402.58
MW-20A	11/1/2022	424.23	24.98	399.25
	5/1/2023		15.40	408.83
	11/1/2023		21.64	402.59

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-22	11/1/2022	561.61	84.43	477.18
	5/1/2023		84.56	477.05
	11/1/2023		86.49	475.12
MW-23	11/1/2022	564.60	82.28	482.32
	5/1/2023		DRY (102.8)	<461.8
	11/1/2023		84.42	480.18
MW-24	11/1/2022	452.71	13.53	439.18
	5/1/2023		12.97	439.74
	11/1/2023		13.76	438.95
MW-30D1	5/1/2023	502.83	DRY (54.36)	<448.47
	11/1/2023		Dry	<448.47
MW-30D2	5/1/2023	502.82	87.27	415.55
	11/1/2023		93.63	409.19
MW-31D2	5/1/2023	453.91	36.04	417.87
	11/1/2023		41.96	411.95
MW-32D1	5/1/2023	516.22	73.36	442.86
	11/1/2023		74.31	441.91
MW-32D2	5/1/2023	516.29	100.58	415.71
	11/1/2023		101.13	415.16
MW-32I	5/1/2023	516.33	50.82	465.51
	11/1/2023		53.05	463.28
MW-33D2	11/1/2022	454.58	44.10	410.48
	5/1/2023		38.04	416.54
	11/1/2023		45.35	409.23
MW-33I	5/1/2023	454.81	11.34	443.47
	11/1/2023		Couldn't Unlock, Not Gauged	
MW-34A	5/1/2023	498.25	20.29	477.96
	11/1/2023		24.37	473.88
MW-34D1	5/1/2023	498.82	30.32	468.50
	11/1/2023		32.98	465.84

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
MW-34D2	5/1/2023	499.31	80.08	419.23
	11/1/2023		84.52	414.79
MW-34SS	5/1/2023	498.95	31.03	467.92
	11/1/2023		32.79	466.16
MW-35D1	5/1/2023	470.09	14.37	455.72
	11/1/2023		17.00	453.09
MW-35D2	5/1/2023	470.54	51.98	418.56
	11/1/2023		55.43	415.11
MW-35SS	5/1/2023	470.16	18.13	452.03
	11/1/2023		18.98	451.18
LF-PZ-1B	8/28/2023	464.09	17.40	446.69
	9/12/2023		17.38	446.71
	11/1/2023		19.05	445.04
LW-18	11/1/2022	510.70	47.95	462.75
	5/1/2023		48.31	462.39
	11/1/2023		50.38	460.32
LW-1A	11/1/2022	504.40	16.35	488.05
	5/1/2023		13.49	490.91
	11/1/2023		17.85	486.55
LW-1B	11/1/2022	504.40	17.95	486.45
	5/1/2023		DRY (26.53)	<477.87
	8/28/2023		13.82	490.58
	9/12/2023		14.55	489.85
	11/1/2023		15.74	488.66
LW-2	11/1/2022	518.90	80.63	438.27
	5/1/2023		80.05	438.85
	11/1/2023		80.79	438.11
LW-28A	11/1/2022	504.40	17.32	487.08
	5/1/2023		18.49	485.91
	11/1/2023		22.43	481.97
LW-28B	11/1/2022	504.40	20.32	484.08
	5/1/2023		16.50	487.90
	8/28/2023		17.63	486.77
	9/12/2023		21.05	483.35
	11/1/2023		18.08	486.32

Table 2
Groundwater Elevation Data
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Monitoring Well/Piezometer Location	Gauging Date	TOC Elevation (ft-MSL)	Depth to Water (ft)	Water Elevation (ft-MSL)
LW-6A	11/1/2022	518.90	43.78	475.12
	5/1/2023		42.78	476.12
	11/1/2023		46.16	472.74
LW-6B	5/1/2023	518.90	DRY (24.24)	NA
	11/1/2023		Dry	NA
LW-8A	11/1/2022	524.90	61.78	463.12
	5/1/2023		63.14	461.76
	11/1/2023		63.41	461.49
LW-8B	11/1/2022	524.90	31.63	493.27
	5/1/2023		31.66	493.24
	8/28/2023		31.65	493.25
	9/12/2023		31.98	492.92
	11/1/2023		31.73	493.17

Notes:
TOC = Top of Casing
NA = Not Available
ft-MSL = feet above Mean Sea Level

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-1 (Field Reading)	MW-1 (P2R2)	MW-1 (P3R2)	MW-2R (Field Reading)	MW-2R (P2R1)	MW-2R (P3R1)
Sample Date		11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022
Pace Lab ID		0	50330420001	50330414001	0	50330418001	50330416001
Static Water Elevation		497.31	#N/A	#N/A	436.03	#N/A	#N/A
Field Parameters							
Temperature, Field	°c	18.35	#N/A	#N/A	16.91	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	3.67	#N/A	#N/A	0.46	#N/A	#N/A
Conductivity, Field	uS/cm	907.19	#N/A	#N/A	2942.06	#N/A	#N/A
ORP, Field	mV	94.48	#N/A	#N/A	-93.10	#N/A	#N/A
pH, Field	S.U.	7.15	#N/A	#N/A	7.13	#N/A	#N/A
Turbidity, Field	NTU	0.00	#N/A	#N/A	7.23	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	#N/A	178	#N/A	#N/A	2020	#N/A
Calcium, Total	ug/L	#N/A	129000	#N/A	#N/A	512000	#N/A
Chloride	mg/L	#N/A	3.7	3.6	#N/A	73.9	72.4
Fluoride	mg/L	#N/A	0.11	0.1	#N/A	<0.1	<0.1
Sulfate	mg/L	#N/A	205	208	#N/A	1460	1540
Total Dissolved Solids	mg/L	#N/A	612	581	#N/A	2620	2540
pH at 25 Degrees C	Std. Units	#N/A	7.4	7.2	#N/A	7.2	7
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	<1	#N/A	#N/A	10	#N/A
Barium, Total	ug/L	#N/A	45.7	#N/A	#N/A	48.6	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	<1	#N/A	#N/A	2	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	<20	#N/A	#N/A	812	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	#N/A	<10	#N/A	#N/A	10.7	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	#N/A	11
Radium-226	pCi/L	#N/A	<0	#N/A	#N/A	0.483	#N/A
Radium-228	pCi/L	#N/A	0.831	#N/A	#N/A	0.573	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	#N/A	<0.831	#N/A	#N/A	1.06	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	280	#N/A	#N/A	159
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	280	#N/A	#N/A	159
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	#N/A	<10
Aluminum, Total	ug/L	#N/A	#N/A	<200	#N/A	#N/A	<200
Dissolved Organic Carbon	mg/L	#N/A	#N/A	<1	#N/A	#N/A	1.7
Iron, Total	ug/L	#N/A	#N/A	<100	#N/A	#N/A	6740
Iron, Ferrous	mg/L	#N/A	#N/A	<0.2	#N/A	#N/A	6.5
Iron, Dissolved	ug/L	#N/A	#N/A	<100	#N/A	#N/A	8270
Magnesium, Total	ug/L	#N/A	#N/A	38100	#N/A	#N/A	50000
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	#N/A	<10	#N/A	#N/A	4800
Manganese, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	#N/A	5980
Nitrogen, Nitrate	mg/L	#N/A	#N/A	2.7	#N/A	#N/A	<0.1
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Phosphate as P04	mg/L	#N/A	#N/A	<0.15	#N/A	#N/A	0.53
Potassium, Total	ug/L	#N/A	#N/A	1050	#N/A	#N/A	69400
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	#N/A	19100	#N/A	#N/A	13500
Sodium, Total	ug/L	#N/A	#N/A	3230	#N/A	#N/A	81600
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Total Organic Carbon	mg/L	#N/A	#N/A	<1	#N/A	#N/A	1.2

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

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-3 (Field Reading)	MW-3 (P2R1)	MW-3 (P3R1)	MW-4C (Field Reading)	MW-4C (P2R1)	MW-4C (P3R1)
Sample Date		11/7/2022	11/7/2022	11/7/2022	11/8/2022	11/8/2022	11/8/2022
Pace Lab ID		0	50330418002	50330416002	0	50330533001	50330527001
Static Water Elevation		440.41	#N/A	#N/A	448.29	#N/A	#N/A
Field Parameters							
Temperature, Field	°c	17.68	#N/A	#N/A	143.52	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	0.19	#N/A	#N/A	0.59	#N/A	#N/A
Conductivity, Field	uS/cm	2283.11	#N/A	#N/A	2506.21	#N/A	#N/A
ORP, Field	mV	23.61	#N/A	#N/A	0.63	#N/A	#N/A
pH, Field	S.U.	7.37	#N/A	#N/A	3.86	#N/A	#N/A
Turbidity, Field	NTU	76.39	#N/A	#N/A	1.97	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	#N/A	945	#N/A	#N/A	3960	#N/A
Calcium, Total	ug/L	#N/A	289000	#N/A	#N/A	600000	#N/A
Chloride	mg/L	#N/A	91.3	86.7	#N/A	39.6	49.2
Fluoride	mg/L	#N/A	<0.1	<0.1	#N/A	0.19	0.17
Sulfate	mg/L	#N/A	982	966	#N/A	1360	1380
Total Dissolved Solids	mg/L	#N/A	1790	1800	#N/A	2540	2480
pH at 25 Degrees C	Std. Units	#N/A	7.6	7.6	#N/A	7.2	7.2
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	17.3	#N/A	#N/A	<1	#N/A
Barium, Total	ug/L	#N/A	46.1	#N/A	#N/A	32.6	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	2.6	#N/A	#N/A	1.1	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	1980	#N/A	#N/A	411	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	#N/A	304	#N/A	#N/A	<10	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	300	#N/A	#N/A	<10
Radium-226	pCi/L	#N/A	0.35	#N/A	#N/A	<0.235	#N/A
Radium-228	pCi/L	#N/A	<0.295	#N/A	#N/A	0.464	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	#N/A	0.645	#N/A	#N/A	0.699	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	130	#N/A	#N/A	420
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	130	#N/A	#N/A	420
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	#N/A	<10
Aluminum, Total	ug/L	#N/A	#N/A	<200	#N/A	#N/A	<200
Dissolved Organic Carbon	mg/L	#N/A	#N/A	1.5	#N/A	#N/A	2.7
Iron, Total	ug/L	#N/A	#N/A	<100	#N/A	#N/A	<100
Iron, Ferrous	mg/L	#N/A	#N/A	<0.2	#N/A	#N/A	<0.2
Iron, Dissolved	ug/L	#N/A	#N/A	<100	#N/A	#N/A	<100
Magnesium, Total	ug/L	#N/A	#N/A	12300	#N/A	#N/A	49900
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	#N/A	1290	#N/A	#N/A	2040
Manganese, Dissolved	ug/L	#N/A	#N/A	1360	#N/A	#N/A	2240
Nitrogen, Nitrate	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Phosphate as P04	mg/L	#N/A	#N/A	<0.15	#N/A	#N/A	<0.15
Potassium, Total	ug/L	#N/A	#N/A	236000	#N/A	#N/A	61800
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	#N/A	11500	#N/A	#N/A	19100
Sodium, Total	ug/L	#N/A	#N/A	97000	#N/A	#N/A	80800
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Total Organic Carbon	mg/L	#N/A	#N/A	1	#N/A	#N/A	2.4

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NS: Not Sampled
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-10 (Field Reading)	MW-10 (P2R2)	MW-10 (P3R2)	MW-11 (Field Reading)	MW-11 (P2R2)	MW-11 (P3R2)
Sample Date		11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022
Pace Lab ID		0	50330420002	50330414002	0	50330420003	50330414003
Static Water Elevation		461.7	#N/A	#N/A	486.1	#N/A	#N/A
Field Parameters							
Temperature, Field	°c	21.61	#N/A	#N/A	18.38	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	7.38	#N/A	#N/A	9.40	#N/A	#N/A
Conductivity, Field	uS/cm	4.28	#N/A	#N/A	1032.08	#N/A	#N/A
ORP, Field	mV	-80.65	#N/A	#N/A	11.33	#N/A	#N/A
pH, Field	S.U.	7.19	#N/A	#N/A	7.67	#N/A	#N/A
Turbidity, Field	NTU	0.06	#N/A	#N/A	542.45	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	#N/A	22800	#N/A	#N/A	1040	#N/A
Calcium, Total	ug/L	#N/A	556000	#N/A	#N/A	168000	#N/A
Chloride	mg/L	#N/A	121	110	#N/A	3.3	3.2
Fluoride	mg/L	#N/A	0.47	0.48	#N/A	0.15	0.16
Sulfate	mg/L	#N/A	1170	1160	#N/A	457	429
Total Dissolved Solids	mg/L	#N/A	2690	2590	#N/A	847	865
pH at 25 Degrees C	Std. Units	#N/A	7.1	7.1	#N/A	7.2	7.4
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	90.1	#N/A	#N/A	9.8	#N/A
Barium, Total	ug/L	#N/A	68.1	#N/A	#N/A	75.5	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	0.66	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	12.9	#N/A
Cobalt, Total	ug/L	#N/A	2.3	#N/A	#N/A	2.6	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	44.6	#N/A	#N/A	<20	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	#N/A	14.7	#N/A	#N/A	<10	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	13.4	#N/A	#N/A	<10
Radium-226	pCi/L	#N/A	<0.162	#N/A	#N/A	1.46	#N/A
Radium-228	pCi/L	#N/A	0.9	#N/A	#N/A	2.55	#N/A
Selenium, Total	ug/L	#N/A	1	#N/A	#N/A	5.5	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	#N/A	1.06	#N/A	#N/A	4.01	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	660	#N/A	#N/A	157
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	660	#N/A	#N/A	157
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	#N/A	<10
Aluminum, Total	ug/L	#N/A	#N/A	748	#N/A	#N/A	2260
Dissolved Organic Carbon	mg/L	#N/A	#N/A	8.9	#N/A	#N/A	1.4
Iron, Total	ug/L	#N/A	#N/A	32400	#N/A	#N/A	9370
Iron, Ferrous	mg/L	#N/A	#N/A	7.2	#N/A	#N/A	<0.2
Iron, Dissolved	ug/L	#N/A	#N/A	25700	#N/A	#N/A	488
Magnesium, Total	ug/L	#N/A	#N/A	117000	#N/A	#N/A	47300
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	#N/A	2610	#N/A	#N/A	22.4
Manganese, Dissolved	ug/L	#N/A	#N/A	2610	#N/A	#N/A	<10
Nitrogen, Nitrate	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	2
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Phosphate as P04	mg/L	#N/A	#N/A	1.5	#N/A	#N/A	0.66
Potassium, Total	ug/L	#N/A	#N/A	37900	#N/A	#N/A	1200
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	#N/A	27800	#N/A	#N/A	23300
Sodium, Total	ug/L	#N/A	#N/A	76900	#N/A	#N/A	2990
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Total Organic Carbon	mg/L	#N/A	#N/A	8.7	#N/A	#N/A	<4

Notes:
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uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
#NA: Not analyzed
NM: Not Measured
NS: Not Sampled
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-12 (Field Reading)	MW-12 (P2R2)	MW-12 (P3R2)	MW-13 (Field Reading)	MW-13 (P2R2)	MW-13 (P3R2)
Sample Date		11/7/2022	11/7/2022	11/7/2022	11/8/2022	11/8/2022	11/8/2022
Pace Lab ID		0	50330420004	50330414004	0	50330530001	50330526001
Static Water Elevation		487.33	#N/A	#N/A	465.52	#N/A	#N/A
Field Parameters							
Temperature, Field	°c	NA	#N/A	#N/A	17.36	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	NA	#N/A	#N/A	0.24	#N/A	#N/A
Conductivity, Field	uS/cm	NA	#N/A	#N/A	2676.35	#N/A	#N/A
ORP, Field	mV	NA	#N/A	#N/A	126.38	#N/A	#N/A
pH, Field	S.U.	NA	#N/A	#N/A	7.26	#N/A	#N/A
Turbidity, Field	NTU	NA	#N/A	#N/A	1.76	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	#N/A	<100	#N/A	#N/A	2520	#N/A
Calcium, Total	ug/L	#N/A	46800	#N/A	#N/A	586000	#N/A
Chloride	mg/L	#N/A	8.1	8.2	#N/A	12	11.8
Fluoride	mg/L	#N/A	0.12	0.12	#N/A	0.76	0.75
Sulfate	mg/L	#N/A	13.8	13.4	#N/A	1400	1400
Total Dissolved Solids	mg/L	#N/A	237	242	#N/A	2290	2340
pH at 25 Degrees C	Std. Units	#N/A	7.2	7.3	#N/A	7.2	7.3
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	1.1	#N/A	#N/A	<1	#N/A
Barium, Total	ug/L	#N/A	28	#N/A	#N/A	22.2	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	<20	#N/A	#N/A	385	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	#N/A	<10	#N/A	#N/A	65.2	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	#N/A	68.6
Radium-226	pCi/L	#N/A	<0	#N/A	#N/A	<-0.223	#N/A
Radium-228	pCi/L	#N/A	0.29	#N/A	#N/A	0.428	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	8.6	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	#N/A	<0.29	#N/A	#N/A	<0.428	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	156	#N/A	#N/A	197
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	156	#N/A	#N/A	197
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	#N/A	<10
Aluminum, Total	ug/L	#N/A	#N/A	2050	#N/A	#N/A	<200
Dissolved Organic Carbon	mg/L	#N/A	#N/A	<1	#N/A	#N/A	2.3
Iron, Total	ug/L	#N/A	#N/A	1980	#N/A	#N/A	<100
Iron, Ferrous	mg/L	#N/A	#N/A	<0.2	#N/A	#N/A	<0.2
Iron, Dissolved	ug/L	#N/A	#N/A	<100	#N/A	#N/A	<100
Magnesium, Total	ug/L	#N/A	#N/A	19700	#N/A	#N/A	22100
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	#N/A	66.1	#N/A	#N/A	<10
Manganese, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	#N/A	<10
Nitrogen, Nitrate	mg/L	#N/A	#N/A	8.8	#N/A	#N/A	0.2
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.4	#N/A	#N/A	<0.1
Phosphate as P04	mg/L	#N/A	#N/A	<0.15	#N/A	#N/A	<0.15
Potassium, Total	ug/L	#N/A	#N/A	1200	#N/A	#N/A	20700
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	#N/A	23900	#N/A	#N/A	15400
Sodium, Total	ug/L	#N/A	#N/A	3120	#N/A	#N/A	28400
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	#N/A	<0.1
Total Organic Carbon	mg/L	#N/A	#N/A	<1	#N/A	#N/A	1.3

Notes:
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RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-14 (Field Reading)	MW-14 (P2R3)	MW-14 (P3R3)	MW-15B (Field Reading)	MW-15B (P4R5)	MW-15 (Field Reading)
Sample Date		11/6/2022	11/6/2022	11/6/2022	11/4/2022	12/29/2022	11/6/2022
Pace Lab ID		0	50330313001	50330306001	0	50334497004	0
Static Water Elevation		418.86	#N/A	#N/A	??	#N/A	419.61
Field Parameters							
Temperature, Field	°c	19.44	#N/A	#N/A	#N/A	#N/A	19.03
Dissolved Oxygen, Field	mg/L	0.93	#N/A	#N/A	#N/A	#N/A	1.48
Conductivity, Field	uS/cm	1139.31	#N/A	#N/A	#N/A	#N/A	1655.91
ORP, Field	mV	-82.16	#N/A	#N/A	#N/A	#N/A	-82.18
pH, Field	S.U.	6.79	#N/A	#N/A	#N/A	#N/A	7.14
Turbidity, Field	NTU	2.66	#N/A	#N/A	#N/A	#N/A	11.07
Appendix III Constituents							
Boron, Total	ug/L	#N/A	623	#N/A	#N/A	1290	#N/A
Calcium, Total	ug/L	#N/A	174000	#N/A	#N/A	257000	#N/A
Chloride	mg/L	#N/A	10.8	11.1	#N/A	47.3	#N/A
Fluoride	mg/L	#N/A	0.11	<0.1	#N/A	<0.1	#N/A
Sulfate	mg/L	#N/A	225	220	#N/A	767	#N/A
Total Dissolved Solids	mg/L	#N/A	776	732	#N/A	1870	#N/A
pH at 25 Degrees C	Std. Units	#N/A	7.2	7	#N/A	7	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	5.3	#N/A	#N/A	<1	#N/A
Barium, Total	ug/L	#N/A	74.9	#N/A	#N/A	68.6	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	#N/A	#N/A
Cobalt, Total	ug/L	#N/A	1.4	#N/A	#N/A	<1	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	<20	#N/A	#N/A	794	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	#N/A	<10	#N/A	#N/A	10.6	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	13.3	#N/A
Radium-226	pCi/L	#N/A	<0.164	#N/A	#N/A	<0.258	#N/A
Radium-228	pCi/L	#N/A	0.546	#N/A	#N/A	1.32	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	#N/A	<0.71	#N/A	#N/A	1.58	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	429	#N/A	203	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	429	#N/A	203	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	#N/A	252	#N/A	<200	#N/A
Dissolved Organic Carbon	mg/L	#N/A	#N/A	1.4	#N/A	1.7	#N/A
Iron, Total	ug/L	#N/A	#N/A	5600	#N/A	7760	#N/A
Iron, Ferrous	mg/L	#N/A	#N/A	1.4	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	#N/A	#N/A	4080	#N/A	8810	#N/A
Magnesium, Total	ug/L	#N/A	#N/A	40900	#N/A	34400	#N/A
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	#N/A	2200	#N/A	1780	#N/A
Manganese, Dissolved	ug/L	#N/A	#N/A	2150	#N/A	2090	#N/A
Nitrogen, Nitrate	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	#N/A	1.6	#N/A	0.43	#N/A
Potassium, Total	ug/L	#N/A	#N/A	1320	#N/A	76400	#N/A
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	#N/A	16300	#N/A	15600	#N/A
Sodium, Total	ug/L	#N/A	#N/A	17800	#N/A	51200	#N/A
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	#N/A	1.2	#N/A	1.3	#N/A

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

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-15 (P2R3)	MW-15 (P3R3)	MW-16 (Field Reading)	MW-16 (P2R3)	MW-16 (P3R3)	MW-20I (Field Reading)
Sample Date		11/6/2022	11/6/2022	11/7/2022	11/7/2022	11/7/2022	11/6/2022
Pace Lab ID		50330313004	50330306004	0	50330419001	50330415001	0
Static Water Elevation		#N/A	#N/A	439	#N/A	#N/A	403.24
Field Parameters							
Temperature, Field	°c	#N/A	#N/A	18.27	#N/A	#N/A	15.47
Dissolved Oxygen, Field	mg/L	#N/A	#N/A	0.43	#N/A	#N/A	0.17
Conductivity, Field	uS/cm	#N/A	#N/A	2729.55	#N/A	#N/A	369.63
ORP, Field	mV	#N/A	#N/A	-121.43	#N/A	#N/A	44.30
pH, Field	S.U.	#N/A	#N/A	7.23	#N/A	#N/A	7.21
Turbidity, Field	NTU	#N/A	#N/A	39.81	#N/A	#N/A	15.15
Appendix III Constituents							
Boron, Total	ug/L	1210	#N/A	#N/A	3070	#N/A	#N/A
Calcium, Total	ug/L	239000	#N/A	#N/A	421000	#N/A	#N/A
Chloride	mg/L	71.9	74.5	#N/A	60.7	63	#N/A
Fluoride	mg/L	<0.1	<0.1	#N/A	0.12	<0.1	#N/A
Sulfate	mg/L	677	688	#N/A	1170	1260	#N/A
Total Dissolved Solids	mg/L	1360	1360	#N/A	2190	2210	#N/A
pH at 25 Degrees C	Std. Units	7.4	7.3	#N/A	7.2	7.3	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	#N/A	#N/A	#N/A	#N/A
Arsenic, Total	ug/L	<1	#N/A	#N/A	5.3	#N/A	#N/A
Barium, Total	ug/L	91.7	#N/A	#N/A	62	#N/A	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Cadmium, Total	ug/L	<2	#N/A	#N/A	<2	#N/A	#N/A
Chromium, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Cobalt, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Lead, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Lithium, Total	ug/L	713	#N/A	#N/A	1540	#N/A	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	84	#N/A	#N/A	412	#N/A	#N/A
Molybdenum, Dissolved	ug/L	#N/A	84.8	#N/A	#N/A	410	#N/A
Radium-226	pCi/L	0.769	#N/A	#N/A	0.417	#N/A	#N/A
Radium-228	pCi/L	0.759	#N/A	#N/A	1.52	#N/A	#N/A
Selenium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	1.53	#N/A	#N/A	1.94	#N/A	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	234	#N/A	#N/A	282	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	234	#N/A	#N/A	282	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	<200	#N/A	#N/A	<200	#N/A
Dissolved Organic Carbon	mg/L	#N/A	1.4	#N/A	#N/A	3.4	#N/A
Iron, Total	ug/L	#N/A	2000	#N/A	#N/A	6120	#N/A
Iron, Ferrous	mg/L	#N/A	<0.2	#N/A	#N/A	2.1	#N/A
Iron, Dissolved	ug/L	#N/A	1960	#N/A	#N/A	5450	#N/A
Magnesium, Total	ug/L	#N/A	39400	#N/A	#N/A	31000	#N/A
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	#N/A	399	#N/A	#N/A	3740	#N/A
Manganese, Dissolved	ug/L	#N/A	403	#N/A	#N/A	3720	#N/A
Nitrogen, Nitrate	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	0.34	#N/A	#N/A	1.8	#N/A
Potassium, Total	ug/L	#N/A	55000	#N/A	#N/A	206000	#N/A
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	#N/A	17300	#N/A	#N/A	11200	#N/A
Sodium, Total	ug/L	#N/A	68500	#N/A	#N/A	88500	#N/A
Sulfide	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	1.4	#N/A	#N/A	1.9	#N/A

Notes:
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mg/L: milligram per liter
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pCi/L: picoCurie per liter
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-20I (P4R3)	MW-20A (Field Reading)	MW-20A (P4R3)	MW-24 (Field Reading)	MW-24 (P4R3)	MW-33D2 (Field Reading)
Sample Date		11/6/2022	11/6/2022	11/6/2022	11/18/2022	11/18/2022	11/1/2022
Pace Lab ID		50330309005	0	50330309004	0	50331534001	0
Static Water Elevation		#N/A	399.25	#N/A	439.18	#N/A	410.48
Field Parameters							
Temperature, Field	°c	#N/A	18.46	#N/A	17.60	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	#N/A	5.07	#N/A	0.00	#N/A	#N/A
Conductivity, Field	uS/cm	#N/A	740.97	#N/A	1890.24	#N/A	#N/A
ORP, Field	mV	#N/A	-107.57	#N/A	-11.67	#N/A	#N/A
pH, Field	S.U.	#N/A	7.37	#N/A	7.31	#N/A	#N/A
Turbidity, Field	NTU	#N/A	23.82	#N/A	0.00	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	435	#N/A	13800	#N/A	1040	#N/A
Calcium, Total	ug/L	105000	#N/A	403000	#N/A	272000	#N/A
Chloride	mg/L	7.7	#N/A	73	#N/A	#N/A	#N/A
Fluoride	mg/L	0.12	#N/A	<0.1	#N/A	#N/A	#N/A
Sulfate	mg/L	27.2	#N/A	924	#N/A	#N/A	#N/A
Total Dissolved Solids	mg/L	389	#N/A	1730	#N/A	1590	#N/A
pH at 25 Degrees C	Std. Units	7.5	#N/A	7.1	#N/A	7.5	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	<1	#N/A	<1	#N/A
Arsenic, Total	ug/L	<1	#N/A	1.8	#N/A	<1	#N/A
Barium, Total	ug/L	50.8	#N/A	38.2	#N/A	41.6	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	<0.2	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	<2	#N/A	<2	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Cobalt, Total	ug/L	1.7	#N/A	<1	#N/A	2.2	#N/A
Lead, Total	ug/L	<10	#N/A	<10	#N/A	<10	#N/A
Lithium, Total	ug/L	<20	#N/A	<20	#N/A	1580	#N/A
Mercury	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Molybdenum, Total	ug/L	<10	#N/A	385	#N/A	373	#N/A
Molybdenum, Dissolved	ug/L	<10	#N/A	249	#N/A	373	#N/A
Radium-226	pCi/L	0.389	#N/A	0.519	#N/A	0.362	#N/A
Radium-228	pCi/L	0.367	#N/A	0.793	#N/A	0.443	#N/A
Selenium, Total	ug/L	1.7	#N/A	<1	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Radium	pCi/L	0.756	#N/A	1.31	#N/A	0.805	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	322	#N/A	214	#N/A	173	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	322	#N/A	214	#N/A	173	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	<10	#N/A	<10	#N/A	<10	#N/A
Aluminum, Total	ug/L	<200	#N/A	301	#N/A	<200	#N/A
Dissolved Organic Carbon	mg/L	1.3	#N/A	1.5	#N/A	<1	#N/A
Iron, Total	ug/L	289	#N/A	8500	#N/A	136	#N/A
Iron, Ferrous	mg/L	<0.2	#N/A	3.1	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	<100	#N/A	5730	#N/A	116	#N/A
Magnesium, Total	ug/L	22900	#N/A	32500	#N/A	33800	#N/A
Magnesium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Manganese, Total	ug/L	1770	#N/A	1410	#N/A	992	#N/A
Manganese, Dissolved	ug/L	1490	#N/A	1340	#N/A	968	#N/A
Nitrogen, Nitrate	mg/L	2.5	#N/A	<0.1	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	<0.1	#N/A	<0.1	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	<0.15	#N/A	0.38	#N/A	<0.15	#N/A
Potassium, Total	ug/L	<1000	#N/A	6250	#N/A	152000	#N/A
Potassium, Dissolved	ug/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Silica, Total	ug/L	10900	#N/A	12800	#N/A	18000	#N/A
Sodium, Total	ug/L	4690	#N/A	30200	#N/A	88500	#N/A
Sulfide	mg/L	<0.1	#N/A	<0.1	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	<1	#N/A	1.2	#N/A	#N/A	#N/A

Notes:
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uS/cm: microsiemen per centimeter
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#NA: Not analyzed
NM: Not Measured
NS: Not Sampled
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter
Static water elevation listed for a well may have been collected on a date different than date of well sampling.

Table 3
Summary of Monitoring Results - November-December 2022
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-33D2 (P5R1)
Sample Date		12/21/2022
Pace Lab ID		50334142001
Static Water Elevation		#N/A
Field Parameters		
Temperature, Field	°c	#N/A
Dissolved Oxygen, Field	mg/L	#N/A
Conductivity, Field	uS/cm	#N/A
ORP, Field	mV	#N/A
pH, Field	S.U.	#N/A
Turbidity, Field	NTU	#N/A
Appendix III Constituents		
Boron, Total	ug/L	1180
Calcium, Total	ug/L	3470
Chloride	mg/L	46
Fluoride	mg/L	3.6
Sulfate	mg/L	4
Total Dissolved Solids	mg/L	616
pH at 25 Degrees C	Std. Units	8.5
Appendix IV Constituents		
Antimony, Total	ug/L	<1
Arsenic, Total	ug/L	<1
Barium, Total	ug/L	129
Beryllium, Total	ug/L	<0.2
Cadmium, Total	ug/L	<2
Chromium, Total	ug/L	<10
Cobalt, Total	ug/L	<1
Lead, Total	ug/L	<10
Lithium, Total	ug/L	27.5
Mercury	ug/L	#N/A
Molybdenum, Total	ug/L	<10
Molybdenum, Dissolved	ug/L	<10
Radium-226	pCi/L	<0.283
Radium-228	pCi/L	0.509
Selenium, Total	ug/L	<1
Thallium, Total	ug/L	<1
Total Radium	pCi/L	0.792
Geochemical Constituents		
Alkalinity, Total as CaCO3	mg/L	521
Alkalinity,Bicarbonate (CaCO3)	mg/L	489
Alkalinity,Carbonate (CaCO3)	mg/L	31.8
Aluminum, Total	ug/L	713
Dissolved Organic Carbon	mg/L	<1
Iron, Total	ug/L	525
Iron, Ferrous	mg/L	<0.2
Iron, Dissolved	ug/L	<100
Magnesium, Total	ug/L	1240
Magnesium, Dissolved	ug/L	#N/A
Manganese, Total	ug/L	20.3
Manganese, Dissolved	ug/L	10.6
Nitrogen, Nitrate	mg/L	<0.1
Nitrogen, Nitrite	mg/L	<0.1
Phosphate as P04	mg/L	<0.15
Potassium, Total	ug/L	1640
Potassium, Dissolved	ug/L	#N/A
Silica, Total	ug/L	11600
Sodium, Total	ug/L	274000
Sulfide	mg/L	<0.1
Total Organic Carbon	mg/L	<1

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

Table 4
Summary of Monitoring Results - April 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-1A	MW-12A
Sample Date		4/7/2023	4/7/2023
Pace Lab ID		50341585002	50341585001
Static Water Elevation		461.06	487.88
Field Parameters			
Temperature, Field	°c	15.3	12.92
Dissolved Oxygen, Field	mg/L	0.41	0.06
Conductivity, Field	uS/cm	671.6	268.15
ORP, Field	mV	-123.1	-75.1
pH, Field	S.U.	5.48	5.65
Turbidity, Field	NTU	648.91	8.03
Appendix III Constituents			
Boron, Total	ug/L	<100	<100
Calcium, Total	ug/L	136000	51200
Chloride	mg/L	83.8	6.7
Fluoride	mg/L	0.12	<0.1
Sulfate	mg/L	123	55.7
Total Dissolved Solids	mg/L	619	231
pH at 25 Degrees C	Std. Units	7.3	7.1
Appendix IV Constituents			
Antimony, Total	ug/L	<1	<1
Arsenic, Total	ug/L	<1	<1
Barium, Total	ug/L	128	67.2
Beryllium, Total	ug/L	<0.2	<0.2
Cadmium, Total	ug/L	<0.2	<0.2
Chromium, Total	ug/L	#N/A	#N/A
Cobalt, Total	ug/L	<1	<1
Lead, Total	ug/L	<1	<1
Lithium, Total	ug/L	<20	<20
Mercury	ug/L	#N/A	#N/A
Molybdenum, Total	ug/L	2.4	<1
Molybdenum, Dissolved	ug/L	2.1	<1
Radium-226	pCi/L	0.333	<0.372
Radium-228	pCi/L	0.731	0.498
Selenium, Total	ug/L	#N/A	#N/A
Thallium, Total	ug/L	#N/A	#N/A
Total Radium	pCi/L	1.06	0.87
Geochemical Constituents			
Alkalinity, Total as CaCO3	mg/L	290	137
Alkalinity,Bicarbonate (CaCO3)	mg/L	290	137
Alkalinity,Carbonate (CaCO3)	mg/L	<10	<10
Aluminum, Total	ug/L	445	<200
Dissolved Organic Carbon	mg/L	1.3	<1
Iron, Total	ug/L	2670	2480
Iron, Ferrous	mg/L	1	1.1
Iron, Dissolved	ug/L	2210	2370
Magnesium, Total	ug/L	39500	18400
Magnesium, Dissolved	ug/L	37500	18100
Manganese, Total	ug/L	199	420
Manganese, Dissolved	ug/L	191	423
Nitrogen, Nitrate	mg/L	<0.1	<0.1
Nitrogen, Nitrite	mg/L	<0.1	<0.1
Phosphate as P04	mg/L	<0.15	<0.15
Potassium, Total	ug/L	2090	2010
Potassium, Dissolved	ug/L	1590	1770
Silica, Total	ug/L	31500	18000
Sodium, Total	ug/L	26900	4800
Sulfide	mg/L	<0.1	<0.1
Total Organic Carbon	mg/L	1.2	<1

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

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

Final Date: 1/29/2024

Table 5

Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-1 (Field Reading)	MW-1 (P2R2)	MW-1 (P3R2)	MW-1A (Field Reading)	MW-1A (P4R6)	MW-2R (Field Reading)
Sample Date		5/2/2023	5/2/2023	5/2/2023	6/6/2023	6/6/2023	5/9/2023
Pace Lab ID		0	50343709001	50343711001	0	50346553002	0
Static Water Elevation		497.16	#N/A	#N/A	461.47	#N/A	441.87
Field Parameters							
Temperature, Field	°c	12.54	#N/A	#N/A	28.19	#N/A	16.06
Dissolved Oxygen, Field	mg/L	5.07	#N/A	#N/A	1	#N/A	0.09
Conductivity, Field	uS/cm	689.81	#N/A	#N/A	538.93	#N/A	2091.3
ORP, Field	mV	89.1	#N/A	#N/A	-68.9	#N/A	-39.9
pH, Field	S.U.	6.8	#N/A	#N/A	7.03	#N/A	6.92
Turbidity, Field	NTU	4.53	#N/A	#N/A	14.72	#N/A	suspect reading - not used
Appendix III Constituents							
Boron, Total	ug/L	#N/A	156	#N/A	#N/A	143	#N/A
Calcium, Total	ug/L	#N/A	142000	#N/A	#N/A	112000	#N/A
Chloride	mg/L	#N/A	3.9	#N/A	#N/A	94.1	#N/A
Fluoride	mg/L	#N/A	0.12	#N/A	#N/A	<0.1	#N/A
Sulfate	mg/L	#N/A	190	#N/A	#N/A	112	#N/A
Total Dissolved Solids	mg/L	#N/A	606	621	#N/A	636	#N/A
pH at 25 Degrees C	Std. Units	#N/A	7.3	7.8	#N/A	7.5	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	#N/A	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	<1	#N/A	#N/A	2.3	#N/A
Barium, Total	ug/L	#N/A	50.5	#N/A	#N/A	120	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	<20	#N/A	#N/A	<20	#N/A
Mercury	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Molybdenum, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Radium-226	pCi/L	#N/A	<0.227	#N/A	#N/A	0.291	#N/A
Radium-228	pCi/L	#N/A	<0.127	#N/A	#N/A	0.671	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Total Radium	pCi/L	#N/A	<0.354	#N/A	#N/A	0.962	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	321	#N/A	288	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	321	#N/A	288	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	#N/A	15.2	#N/A	156	#N/A
Dissolved Organic Carbon	mg/L	#N/A	#N/A	1.5	#N/A	1.3	#N/A
Iron, Total	ug/L	#N/A	#N/A	<100	#N/A	3870	#N/A
Iron, Ferrous	mg/L	#N/A	#N/A	<0.2	#N/A	0.96	#N/A
Iron, Dissolved	ug/L	#N/A	#N/A	<100	#N/A	3520	#N/A
Magnesium, Total	ug/L	#N/A	#N/A	42500	#N/A	28300	#N/A
Magnesium, Dissolved	ug/L	#N/A	#N/A	45500	#N/A	28400	#N/A
Manganese, Total	ug/L	#N/A	#N/A	1.5	#N/A	334	#N/A
Manganese, Dissolved	ug/L	#N/A	#N/A	4.5	#N/A	333	#N/A
Nitrogen, Nitrate	mg/L	#N/A	#N/A	4.4	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	#N/A	<0.15	#N/A	0.23	#N/A
Potassium, Total	ug/L	#N/A	#N/A	1500	#N/A	1480	#N/A
Potassium, Dissolved	ug/L	#N/A	#N/A	1590	#N/A	1420	#N/A
Silica, Total	ug/L	#N/A	#N/A	22700	#N/A	29200	#N/A
Sodium, Total	ug/L	#N/A	#N/A	3580	#N/A	65500	#N/A
Sulfide	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	#N/A	1	#N/A	<1	#N/A

Notes:
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°C: Degrees celcius
uS/cm: microsiemen per centimeter
umhos/cm: micromhos per centimeter
#NA: Not analyzed
NM: Not Measured
NS: Not Sampled
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-2R (P2R1)	MW-2R (P3R1)	MW-3 (Field Reading)	MW-3 (P2R1)	MW-3 (P3R1)	MW-4C (Field Reading)
Sample Date		5/9/2023	5/9/2023	5/7/2023	5/7/2023	5/7/2023	5/9/2023
Pace Lab ID		50344397002	50344396002	0	50344231001	50344229002	0
Static Water Elevation		#N/A	#N/A	441	#N/A	#N/A	448.76
Field Parameters							
Temperature, Field	°c	#N/A	#N/A	17.67	#N/A	#N/A	14.55
Dissolved Oxygen, Field	mg/L	#N/A	#N/A	0.93	#N/A	#N/A	0.28
Conductivity, Field	uS/cm	#N/A	#N/A	1714.5	#N/A	#N/A	2060.6
ORP, Field	mV	#N/A	#N/A	72.4	#N/A	#N/A	132.8
pH, Field	S.U.	#N/A	#N/A	7.11	#N/A	#N/A	6.94
Turbidity, Field	NTU	#N/A	#N/A	2.05	#N/A	#N/A	331.72
Appendix III Constituents							
Boron, Total	ug/L	1830	#N/A	#N/A	985	#N/A	#N/A
Calcium, Total	ug/L	508000	#N/A	#N/A	454000	#N/A	#N/A
Chloride	mg/L	78.1	#N/A	#N/A	51.7	50.2	#N/A
Fluoride	mg/L	<0.1	#N/A	#N/A	0.14	#N/A	#N/A
Sulfate	mg/L	1580	#N/A	#N/A	1420	1410	#N/A
Total Dissolved Solids	mg/L	2480	2400	#N/A	1980	2270	#N/A
pH at 25 Degrees C	Std. Units	6.9	7.2	#N/A	7.4	7.3	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Arsenic, Total	ug/L	78	#N/A	#N/A	32.3	#N/A	#N/A
Barium, Total	ug/L	80.4	#N/A	#N/A	61.6	#N/A	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Cadmium, Total	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Chromium, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Cobalt, Total	ug/L	3.7	#N/A	#N/A	2.3	#N/A	#N/A
Lead, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Lithium, Total	ug/L	703	#N/A	#N/A	1710	#N/A	#N/A
Mercury	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Molybdenum, Total	ug/L	10.4	#N/A	#N/A	345	#N/A	#N/A
Molybdenum, Dissolved	ug/L	#N/A	<10	#N/A	#N/A	284	#N/A
Radium-226	pCi/L	0.774	#N/A	#N/A	<0.0974	#N/A	#N/A
Radium-228	pCi/L	0.649	#N/A	#N/A	0.828	#N/A	#N/A
Selenium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Thallium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Total Radium	pCi/L	1.42	#N/A	#N/A	0.925	#N/A	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	147	#N/A	#N/A	75.9	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	147	#N/A	#N/A	75.9	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	65.4	#N/A	#N/A	<10	#N/A
Dissolved Organic Carbon	mg/L	#N/A	2.2	#N/A	#N/A	1.5	#N/A
Iron, Total	ug/L	#N/A	14500	#N/A	#N/A	<100	#N/A
Iron, Ferrous	mg/L	#N/A	7.7	#N/A	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	#N/A	8140	#N/A	#N/A	<100	#N/A
Magnesium, Total	ug/L	#N/A	65400	#N/A	#N/A	7550	#N/A
Magnesium, Dissolved	ug/L	#N/A	68200	#N/A	#N/A	8000	#N/A
Manganese, Total	ug/L	#N/A	6830	#N/A	#N/A	5090	#N/A
Manganese, Dissolved	ug/L	#N/A	7280	#N/A	#N/A	4900	#N/A
Nitrogen, Nitrate	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	1.4	#N/A	#N/A	0.28	#N/A
Potassium, Total	ug/L	#N/A	88000	#N/A	#N/A	223000	#N/A
Potassium, Dissolved	ug/L	#N/A	83200	#N/A	#N/A	210000	#N/A
Silica, Total	ug/L	#N/A	17300	#N/A	#N/A	10200	#N/A
Sodium, Total	ug/L	#N/A	109000	#N/A	#N/A	82600	#N/A
Sulfide	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	1.4	#N/A	#N/A	1.4	#N/A

Notes:
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umhos/cm: micromhos per centimeter
#NA: Not analyzed
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NS: Not Sampled
mV: millivolt
Std. Units: standard units
mg/L: milligram per liter
ug/L: microgram per liter
pCi/L: picoCurie per liter

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-4C (P2R1)	MW-4C (P3R1)	MW-10 (Field Reading)	MW-10 (P2R2)	MW-10 (P3R2)	MW-11 (Field Reading)
Sample Date		5/9/2023	5/9/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023
Pace Lab ID		50344397001	50344396001	0	50343709002	50343711002	0
Static Water Elevation		#N/A	#N/A	464.38	#N/A	#N/A	484.82
Field Parameters							
Temperature, Field	°c	#N/A	#N/A	23.45	#N/A	#N/A	20.2
Dissolved Oxygen, Field	mg/L	#N/A	#N/A	2.78	#N/A	#N/A	7.09
Conductivity, Field	uS/cm	#N/A	#N/A	2126.6	#N/A	#N/A	724.11
ORP, Field	mV	#N/A	#N/A	-104	#N/A	#N/A	67.3
pH, Field	S.U.	#N/A	#N/A	7.06	#N/A	#N/A	7.13
Turbidity, Field	NTU	#N/A	#N/A	133.21	#N/A	#N/A	40.4
Appendix III Constituents							
Boron, Total	ug/L	3700	#N/A	#N/A	34300	#N/A	#N/A
Calcium, Total	ug/L	580000	#N/A	#N/A	620000	#N/A	#N/A
Chloride	mg/L	49.7	#N/A	#N/A	117	#N/A	#N/A
Fluoride	mg/L	<0.1	#N/A	#N/A	0.23	#N/A	#N/A
Sulfate	mg/L	1360	#N/A	#N/A	1400	#N/A	#N/A
Total Dissolved Solids	mg/L	2350	2440	#N/A	2720	2720	#N/A
pH at 25 Degrees C	Std. Units	6.9	7.2	#N/A	7.2	7.6	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Arsenic, Total	ug/L	<1	#N/A	#N/A	67.7	#N/A	#N/A
Barium, Total	ug/L	27.5	#N/A	#N/A	67.4	#N/A	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Cadmium, Total	ug/L	0.39	#N/A	#N/A	<2	#N/A	#N/A
Chromium, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Cobalt, Total	ug/L	<1	#N/A	#N/A	2.1	#N/A	#N/A
Lead, Total	ug/L	<1	#N/A	#N/A	<10	#N/A	#N/A
Lithium, Total	ug/L	351	#N/A	#N/A	34.5	#N/A	#N/A
Mercury	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Molybdenum, Total	ug/L	8.2	#N/A	#N/A	15.7	#N/A	#N/A
Molybdenum, Dissolved	ug/L	#N/A	<10	#N/A	#N/A	15.6	#N/A
Radium-226	pCi/L	0.451	#N/A	#N/A	1.01	#N/A	#N/A
Radium-228	pCi/L	0.411	#N/A	#N/A	0.77	#N/A	#N/A
Selenium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Thallium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Total Radium	pCi/L	0.862	#N/A	#N/A	1.78	#N/A	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	409	#N/A	#N/A	562	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	409	#N/A	#N/A	562	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	34.2	#N/A	#N/A	1170	#N/A
Dissolved Organic Carbon	mg/L	#N/A	11.7	#N/A	#N/A	9.2	#N/A
Iron, Total	ug/L	#N/A	<100	#N/A	#N/A	31200	#N/A
Iron, Ferrous	mg/L	#N/A	<0.2	#N/A	#N/A	0.7	#N/A
Iron, Dissolved	ug/L	#N/A	<100	#N/A	#N/A	29900	#N/A
Magnesium, Total	ug/L	#N/A	53200	#N/A	#N/A	88700	#N/A
Magnesium, Dissolved	ug/L	#N/A	50200	#N/A	#N/A	94500	#N/A
Manganese, Total	ug/L	#N/A	2360	#N/A	#N/A	2700	#N/A
Manganese, Dissolved	ug/L	#N/A	2540	#N/A	#N/A	2770	#N/A
Nitrogen, Nitrate	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	<0.15	#N/A	#N/A	1.1	#N/A
Potassium, Total	ug/L	#N/A	59100	#N/A	#N/A	35700	#N/A
Potassium, Dissolved	ug/L	#N/A	65400	#N/A	#N/A	37000	#N/A
Silica, Total	ug/L	#N/A	19700	#N/A	#N/A	32300	#N/A
Sodium, Total	ug/L	#N/A	81300	#N/A	#N/A	75600	#N/A
Sulfide	mg/L	#N/A	0.042	#N/A	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	2.1	#N/A	#N/A	9.3	#N/A

Notes:
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NM: Not Measured
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Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-11 (P2R2)	MW-11 (P3R2)	MW-12 (Field Reading)	MW-12 (P2R2)	MW-12 (P3R2)	MW-12A (Field Reading)
Sample Date		5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	6/6/2023
Pace Lab ID		50343709003	50343711003	0	50343709004	50343711004	0
Static Water Elevation		#N/A	#N/A	491.68	#N/A	#N/A	489.09
Field Parameters							
Temperature, Field	°c	#N/A	#N/A	14.62	#N/A	#N/A	21.21
Dissolved Oxygen, Field	mg/L	#N/A	#N/A	9.91	#N/A	#N/A	0.18
Conductivity, Field	uS/cm	#N/A	#N/A	311.82	#N/A	#N/A	203.39
ORP, Field	mV	#N/A	#N/A	138.3	#N/A	#N/A	-10.9
pH, Field	S.U.	#N/A	#N/A	6.68	#N/A	#N/A	6.82
Turbidity, Field	NTU	#N/A	#N/A	70.99	#N/A	#N/A	2.12
Appendix III Constituents							
Boron, Total	ug/L	1050	#N/A	#N/A	16.6	#N/A	#N/A
Calcium, Total	ug/L	160000	#N/A	#N/A	53200	#N/A	#N/A
Chloride	mg/L	1.8	#N/A	#N/A	7.8	#N/A	#N/A
Fluoride	mg/L	0.14	#N/A	#N/A	0.16	#N/A	#N/A
Sulfate	mg/L	356	#N/A	#N/A	13	#N/A	#N/A
Total Dissolved Solids	mg/L	696	764	#N/A	216	246	#N/A
pH at 25 Degrees C	Std. Units	7.4	7.8	#N/A	7.4	7.9	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Arsenic, Total	ug/L	<1	#N/A	#N/A	1.9	#N/A	#N/A
Barium, Total	ug/L	34.5	#N/A	#N/A	34.9	#N/A	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Cadmium, Total	ug/L	<2	#N/A	#N/A	<2	#N/A	#N/A
Chromium, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Cobalt, Total	ug/L	<1	#N/A	#N/A	1.2	#N/A	#N/A
Lead, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Lithium, Total	ug/L	<20	#N/A	#N/A	<20	#N/A	#N/A
Mercury	ug/L	<0.2	#N/A	#N/A	<0.2	#N/A	#N/A
Molybdenum, Total	ug/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Molybdenum, Dissolved	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Radium-226	pCi/L	<0.198	#N/A	#N/A	0.334	#N/A	#N/A
Radium-228	pCi/L	<0.357	#N/A	#N/A	<0.307	#N/A	#N/A
Selenium, Total	ug/L	4.6	#N/A	#N/A	<1	#N/A	#N/A
Thallium, Total	ug/L	<1	#N/A	#N/A	<1	#N/A	#N/A
Total Radium	pCi/L	<0.555	#N/A	#N/A	0.641	#N/A	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	159	#N/A	#N/A	166	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	159	#N/A	#N/A	166	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	192	#N/A	#N/A	4390	#N/A
Dissolved Organic Carbon	mg/L	#N/A	1	#N/A	#N/A	<1	#N/A
Iron, Total	ug/L	#N/A	1540	#N/A	#N/A	7770	#N/A
Iron, Ferrous	mg/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	#N/A	<100	#N/A	#N/A	<100	#N/A
Magnesium, Total	ug/L	#N/A	42900	#N/A	#N/A	20200	#N/A
Magnesium, Dissolved	ug/L	#N/A	46400	#N/A	#N/A	20600	#N/A
Manganese, Total	ug/L	#N/A	2.6	#N/A	#N/A	163	#N/A
Manganese, Dissolved	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Nitrogen, Nitrate	mg/L	#N/A	1.6	#N/A	#N/A	8.2	#N/A
Nitrogen, Nitrite	mg/L	#N/A	<0.1	#N/A	#N/A	<0.5	#N/A
Phosphate as P04	mg/L	#N/A	0.31	#N/A	#N/A	<0.5	#N/A
Potassium, Total	ug/L	#N/A	<1000	#N/A	#N/A	2090	#N/A
Potassium, Dissolved	ug/L	#N/A	<1000	#N/A	#N/A	<1000	#N/A
Silica, Total	ug/L	#N/A	20100	#N/A	#N/A	36700	#N/A
Sodium, Total	ug/L	#N/A	3270	#N/A	#N/A	3700	#N/A
Sulfide	mg/L	#N/A	<0.1	#N/A	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	<1	#N/A	#N/A	<4	#N/A

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

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-12A (P4R6)	MW-13 (Field Reading)	MW-13 (P2R2)	MW-13 (P3R2)	MW-14 (Field Reading)	MW-14 (P2R3)
Sample Date		6/6/2023	5/2/2023	5/2/2023	5/2/2023	5/7/2023	5/7/2023
Pace Lab ID		50346553001	0	50343709005	50343711005	0	50344230001
Static Water Elevation		#N/A	468.24	#N/A	#N/A	419.69	#N/A
Field Parameters							
Temperature, Field	°c	#N/A	11.91	#N/A	#N/A	15.92	#N/A
Dissolved Oxygen, Field	mg/L	#N/A	8.88	#N/A	#N/A	1.19	#N/A
Conductivity, Field	uS/cm	#N/A	890.57	#N/A	#N/A	826.11	#N/A
ORP, Field	mV	#N/A	121.1	#N/A	#N/A	-36.4	#N/A
pH, Field	S.U.	#N/A	7.27	#N/A	#N/A	6.8	#N/A
Turbidity, Field	NTU	#N/A	37.57	#N/A	#N/A	5.68	#N/A
Appendix III Constituents							
Boron, Total	ug/L	10.4	#N/A	1230	#N/A	#N/A	519
Calcium, Total	ug/L	45900	#N/A	394000	#N/A	#N/A	185000
Chloride	mg/L	7.1	#N/A	3.7	#N/A	#N/A	13.6
Fluoride	mg/L	<0.1	#N/A	0.66	#N/A	#N/A	<0.1
Sulfate	mg/L	56.9	#N/A	753	#N/A	#N/A	218
Total Dissolved Solids	mg/L	239	#N/A	1450	1640	#N/A	699
pH at 25 Degrees C	Std. Units	8	#N/A	7.5	7.7	#N/A	7
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	<1	#N/A	#N/A	<1
Arsenic, Total	ug/L	<1	#N/A	<1	#N/A	#N/A	3.2
Barium, Total	ug/L	73.2	#N/A	18.5	#N/A	#N/A	69
Beryllium, Total	ug/L	<0.2	#N/A	<0.2	#N/A	#N/A	<0.2
Cadmium, Total	ug/L	<2	#N/A	<2	#N/A	#N/A	<2
Chromium, Total	ug/L	<10	#N/A	<10	#N/A	#N/A	<10
Cobalt, Total	ug/L	<1	#N/A	<1	#N/A	#N/A	1.5
Lead, Total	ug/L	<10	#N/A	<10	#N/A	#N/A	<10
Lithium, Total	ug/L	<20	#N/A	62.3	#N/A	#N/A	<20
Mercury	ug/L	<0.2	#N/A	<0.2	#N/A	#N/A	<0.2
Molybdenum, Total	ug/L	<10	#N/A	39.8	#N/A	#N/A	<10
Molybdenum, Dissolved	ug/L	<10	#N/A	#N/A	39.7	#N/A	#N/A
Radium-226	pCi/L	<0.342	#N/A	<0.144	#N/A	#N/A	0.263
Radium-228	pCi/L	1.11	#N/A	<0.113	#N/A	#N/A	0.49
Selenium, Total	ug/L	<1	#N/A	5.8	#N/A	#N/A	<1
Thallium, Total	ug/L	<1	#N/A	<1	#N/A	#N/A	<1
Total Radium	pCi/L	1.45	#N/A	<0.257	#N/A	#N/A	0.753
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	130	#N/A	#N/A	178	#N/A	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	#N/A	#N/A	178	#N/A	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	<10	#N/A	#N/A	<10	#N/A	#N/A
Aluminum, Total	ug/L	14.9	#N/A	#N/A	13.1	#N/A	#N/A
Dissolved Organic Carbon	mg/L	<1	#N/A	#N/A	1.9	#N/A	#N/A
Iron, Total	ug/L	2540	#N/A	#N/A	<100	#N/A	#N/A
Iron, Ferrous	mg/L	1.4	#N/A	#N/A	<0.2	#N/A	#N/A
Iron, Dissolved	ug/L	2510	#N/A	#N/A	<100	#N/A	#N/A
Magnesium, Total	ug/L	17600	#N/A	#N/A	16000	#N/A	#N/A
Magnesium, Dissolved	ug/L	17900	#N/A	#N/A	17600	#N/A	#N/A
Manganese, Total	ug/L	472	#N/A	#N/A	2.7	#N/A	#N/A
Manganese, Dissolved	ug/L	471	#N/A	#N/A	<1	#N/A	#N/A
Nitrogen, Nitrate	mg/L	<0.1	#N/A	#N/A	0.22	#N/A	#N/A
Nitrogen, Nitrite	mg/L	<0.1	#N/A	#N/A	<0.1	#N/A	#N/A
Phosphate as P04	mg/L	0.2	#N/A	#N/A	<0.15	#N/A	#N/A
Potassium, Total	ug/L	1840	#N/A	#N/A	22300	#N/A	#N/A
Potassium, Dissolved	ug/L	1820	#N/A	#N/A	22800	#N/A	#N/A
Silica, Total	ug/L	17200	#N/A	#N/A	15300	#N/A	#N/A
Sodium, Total	ug/L	3990	#N/A	#N/A	17600	#N/A	#N/A
Sulfide	mg/L	<0.1	#N/A	#N/A	<0.1	#N/A	#N/A
Total Organic Carbon	mg/L	<1	#N/A	#N/A	1.5	#N/A	#N/A

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

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-14 (P3R3)	MW-15B (Field Reading)	MW-15B (P2R3)	MW-15 (Field Reading)	MW-15 (P2R3)	MW-15 (P3R3)
Sample Date		5/7/2023	6/6/2023	6/6/2023	5/7/2023	5/7/2023	5/7/2023
Pace Lab ID		50344228001	0	50346568001	0	50344230006	50344228004
Static Water Elevation		#N/A	434.28	#N/A	422.85	#N/A	#N/A
Field Parameters							
Temperature, Field	°c	#N/A	20.19	#N/A	16.34	#N/A	#N/A
Dissolved Oxygen, Field	mg/L	#N/A	0.09	#N/A	0.48	#N/A	#N/A
Conductivity, Field	uS/cm	#N/A	1878.9	#N/A	1247.4	#N/A	#N/A
ORP, Field	mV	#N/A	-109.3	#N/A	-71.4	#N/A	#N/A
pH, Field	S.U.	#N/A	7.14	#N/A	7.15	#N/A	#N/A
Turbidity, Field	NTU	#N/A	suspect reading - not used	#N/A	3.64	#N/A	#N/A
Appendix III Constituents							
Boron, Total	ug/L	#N/A	#N/A	1340	#N/A	1280	#N/A
Calcium, Total	ug/L	#N/A	#N/A	268000	#N/A	252000	#N/A
Chloride	mg/L	14.1	#N/A	55.2	#N/A	71.4	#N/A
Fluoride	mg/L	#N/A	#N/A	0.11	#N/A	0.11	#N/A
Sulfate	mg/L	226	#N/A	851	#N/A	719	#N/A
Total Dissolved Solids	mg/L	717	#N/A	1450	#N/A	1280	1280
pH at 25 Degrees C	Std. Units	7	#N/A	7.5	#N/A	7.1	7.1
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	#N/A	<1	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	#N/A	<1	#N/A	<1	#N/A
Barium, Total	ug/L	#N/A	#N/A	60.5	#N/A	91.7	#N/A
Beryllium, Total	ug/L	#N/A	#N/A	<0.2	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	#N/A	<2	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	#N/A	<1	#N/A	<1	#N/A
Lead, Total	ug/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	#N/A	915	#N/A	817	#N/A
Mercury	ug/L	#N/A	#N/A	<0.2	#N/A	<0.2	#N/A
Molybdenum, Total	ug/L	#N/A	#N/A	14.3	#N/A	104	#N/A
Molybdenum, Dissolved	ug/L	<10	#N/A	#N/A	#N/A	#N/A	104
Radium-226	pCi/L	#N/A	#N/A	0.63	#N/A	0.34	#N/A
Radium-228	pCi/L	#N/A	#N/A	1.25	#N/A	0.644	#N/A
Selenium, Total	ug/L	#N/A	#N/A	<1	#N/A	<1	#N/A
Thallium, Total	ug/L	#N/A	#N/A	<1	#N/A	<1	#N/A
Total Radium	pCi/L	#N/A	#N/A	1.88	#N/A	0.984	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	423	#N/A	#N/A	#N/A	#N/A	217
Alkalinity,Bicarbonate (CaCO3)	mg/L	423	#N/A	#N/A	#N/A	#N/A	217
Alkalinity,Carbonate (CaCO3)	mg/L	<10	#N/A	#N/A	#N/A	#N/A	<10
Aluminum, Total	ug/L	189	#N/A	#N/A	#N/A	#N/A	<10
Dissolved Organic Carbon	mg/L	2	#N/A	#N/A	#N/A	#N/A	1.7
Iron, Total	ug/L	6710	#N/A	#N/A	#N/A	#N/A	2110
Iron, Ferrous	mg/L	1.1	#N/A	#N/A	#N/A	#N/A	0.91
Iron, Dissolved	ug/L	6180	#N/A	#N/A	#N/A	#N/A	2120
Magnesium, Total	ug/L	31300	#N/A	#N/A	#N/A	#N/A	39600
Magnesium, Dissolved	ug/L	30800	#N/A	#N/A	#N/A	#N/A	40000
Manganese, Total	ug/L	2760	#N/A	#N/A	#N/A	#N/A	430
Manganese, Dissolved	ug/L	2630	#N/A	#N/A	#N/A	#N/A	421
Nitrogen, Nitrate	mg/L	<0.1	#N/A	#N/A	#N/A	#N/A	<0.1
Nitrogen, Nitrite	mg/L	<0.1	#N/A	#N/A	#N/A	#N/A	<0.1
Phosphate as P04	mg/L	0.67	#N/A	#N/A	#N/A	#N/A	0.34
Potassium, Total	ug/L	1470	#N/A	#N/A	#N/A	#N/A	57900
Potassium, Dissolved	ug/L	1540	#N/A	#N/A	#N/A	#N/A	58500
Silica, Total	ug/L	16500	#N/A	#N/A	#N/A	#N/A	18400
Sodium, Total	ug/L	24200	#N/A	#N/A	#N/A	#N/A	69100
Sulfide	mg/L	<0.1	#N/A	#N/A	#N/A	#N/A	<0.1
Total Organic Carbon	mg/L	1.4	#N/A	#N/A	#N/A	#N/A	1.6

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

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-16 (Field Reading)	MW-16 (P2R3)	MW-16 (P3R3)	MW-20B (Field Reading)	MW-20B (P4R3)	MW-20I (Field Reading)
Sample Date		5/7/2023	5/7/2023	5/7/2023	5/17/2023	5/17/2023	5/17/2023
Pace Lab ID		0	50344230007	50344228005	0	50345193004	0
Static Water Elevation		439.09	#N/A	#N/A	408.81	#N/A	408.84
Field Parameters							
Temperature, Field	°c	14.39	#N/A	#N/A	14.48	#N/A	14.52
Dissolved Oxygen, Field	mg/L	0.8	#N/A	#N/A	1.6	#N/A	0.63
Conductivity, Field	uS/cm	2049.9	#N/A	#N/A	694.64	#N/A	498.31
ORP, Field	mV	-81.9	#N/A	#N/A	90.1	#N/A	73.4
pH, Field	S.U.	7.15	#N/A	#N/A	6.71	#N/A	7.06
Turbidity, Field	NTU	58.89	#N/A	#N/A	132.24	#N/A	337.75
Appendix III Constituents							
Boron, Total	ug/L	#N/A	3250	#N/A	#N/A	469	#N/A
Calcium, Total	ug/L	#N/A	513000	#N/A	#N/A	174000	#N/A
Chloride	mg/L	#N/A	51.8	#N/A	#N/A	12.9	#N/A
Fluoride	mg/L	#N/A	0.1	#N/A	#N/A	<0.1	#N/A
Sulfate	mg/L	#N/A	1410	#N/A	#N/A	61.1	#N/A
Total Dissolved Solids	mg/L	#N/A	2400	2380	#N/A	578	#N/A
pH at 25 Degrees C	Std. Units	#N/A	7.2	7.2	#N/A	7.4	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Arsenic, Total	ug/L	#N/A	6.9	#N/A	#N/A	<1	#N/A
Barium, Total	ug/L	#N/A	64.6	#N/A	#N/A	102	#N/A
Beryllium, Total	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	#N/A	<2	#N/A	#N/A	<2	#N/A
Chromium, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Cobalt, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Lead, Total	ug/L	#N/A	<10	#N/A	#N/A	<10	#N/A
Lithium, Total	ug/L	#N/A	1300	#N/A	#N/A	<20	#N/A
Mercury	ug/L	#N/A	<0.2	#N/A	#N/A	<0.2	#N/A
Molybdenum, Total	ug/L	#N/A	355	#N/A	#N/A	<10	#N/A
Molybdenum, Dissolved	ug/L	#N/A	#N/A	328	#N/A	<10	#N/A
Radium-226	pCi/L	#N/A	0.553	#N/A	#N/A	0.405	#N/A
Radium-228	pCi/L	#N/A	0.936	#N/A	#N/A	0.439	#N/A
Selenium, Total	ug/L	#N/A	<1	#N/A	#N/A	8.5	#N/A
Thallium, Total	ug/L	#N/A	<1	#N/A	#N/A	<1	#N/A
Total Radium	pCi/L	#N/A	1.49	#N/A	#N/A	0.844	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	#N/A	#N/A	409	#N/A	446	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	#N/A	#N/A	409	#N/A	446	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	#N/A	#N/A	<10	#N/A	<10	#N/A
Aluminum, Total	ug/L	#N/A	#N/A	11.2	#N/A	103	#N/A
Dissolved Organic Carbon	mg/L	#N/A	#N/A	2.7	#N/A	2.1	#N/A
Iron, Total	ug/L	#N/A	#N/A	9180	#N/A	172	#N/A
Iron, Ferrous	mg/L	#N/A	#N/A	<0.2	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	#N/A	#N/A	7800	#N/A	<100	#N/A
Magnesium, Total	ug/L	#N/A	#N/A	34200	#N/A	28300	#N/A
Magnesium, Dissolved	ug/L	#N/A	#N/A	35200	#N/A	25200	#N/A
Manganese, Total	ug/L	#N/A	#N/A	5530	#N/A	14.4	#N/A
Manganese, Dissolved	ug/L	#N/A	#N/A	5420	#N/A	<1	#N/A
Nitrogen, Nitrate	mg/L	#N/A	#N/A	<0.1	#N/A	4.7	#N/A
Nitrogen, Nitrite	mg/L	#N/A	#N/A	<0.1	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	#N/A	#N/A	2	#N/A	<0.15	#N/A
Potassium, Total	ug/L	#N/A	#N/A	202000	#N/A	1060	#N/A
Potassium, Dissolved	ug/L	#N/A	#N/A	197000	#N/A	<1000	#N/A
Silica, Total	ug/L	#N/A	#N/A	11300	#N/A	14000	#N/A
Sodium, Total	ug/L	#N/A	#N/A	75600	#N/A	13100	#N/A
Sulfide	mg/L	#N/A	#N/A	0.043	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	#N/A	#N/A	2.5	#N/A	1.5	#N/A

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

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-20I (P4R3)	MW-20A (Field Reading)	MW-20A (P4R3)	MW-24 (Field Reading)	MW-24 (P4R2)	MW-33D2 (Field Reading)
Sample Date		5/17/2023	5/17/2023	5/17/2023	6/6/2023	6/6/2023	5/23/2023
Pace Lab ID		50345193008	0	50345193009	0	50346556001	0
Static Water Elevation		#N/A	408.83	#N/A	439.74	#N/A	416.54
Field Parameters							
Temperature, Field	°c	#N/A	14.59	#N/A	18.13	#N/A	20.22
Dissolved Oxygen, Field	mg/L	#N/A	0.43	#N/A	3.91	#N/A	0.08
Conductivity, Field	uS/cm	#N/A	1179.2	#N/A	suspect reading - not used	#N/A	1071.5
ORP, Field	mV	#N/A	-97.2	#N/A	214.8	#N/A	-182.9
pH, Field	S.U.	#N/A	7.18	#N/A	7.19	#N/A	8.39
Turbidity, Field	NTU	#N/A	suspect reading - not used	#N/A	suspect reading - not used	#N/A	435.4
Appendix III Constituents							
Boron, Total	ug/L	261	#N/A	10900	#N/A	934	#N/A
Calcium, Total	ug/L	120000	#N/A	338000	#N/A	248000	#N/A
Chloride	mg/L	6.8	#N/A	59.4	#N/A	57.1	#N/A
Fluoride	mg/L	0.11	#N/A	<0.1	#N/A	<0.1	#N/A
Sulfate	mg/L	29.7	#N/A	691	#N/A	600	#N/A
Total Dissolved Solids	mg/L	392	#N/A	1390	#N/A	1410	#N/A
pH at 25 Degrees C	Std. Units	7.4	#N/A	7.8	#N/A	7.5	#N/A
Appendix IV Constituents							
Antimony, Total	ug/L	<1	#N/A	<1	#N/A	<1	#N/A
Arsenic, Total	ug/L	<1	#N/A	1.7	#N/A	<1	#N/A
Barium, Total	ug/L	57.9	#N/A	29.9	#N/A	34.5	#N/A
Beryllium, Total	ug/L	<0.2	#N/A	<0.2	#N/A	<0.2	#N/A
Cadmium, Total	ug/L	<2	#N/A	<2	#N/A	<2	#N/A
Chromium, Total	ug/L	<10	#N/A	<10	#N/A	<10	#N/A
Cobalt, Total	ug/L	4.9	#N/A	<1	#N/A	1.8	#N/A
Lead, Total	ug/L	<10	#N/A	<10	#N/A	<10	#N/A
Lithium, Total	ug/L	<20	#N/A	<20	#N/A	1410	#N/A
Mercury	ug/L	<0.2	#N/A	<0.2	#N/A	<0.2	#N/A
Molybdenum, Total	ug/L	<10	#N/A	366	#N/A	347	#N/A
Molybdenum, Dissolved	ug/L	<10	#N/A	414	#N/A	352	#N/A
Radium-226	pCi/L	<0.0833	#N/A	0.597	#N/A	<-0.0579	#N/A
Radium-228	pCi/L	<0.459	#N/A	0.552	#N/A	0.609	#N/A
Selenium, Total	ug/L	2	#N/A	<1	#N/A	<1	#N/A
Thallium, Total	ug/L	<1	#N/A	<1	#N/A	<1	#N/A
Total Radium	pCi/L	<0.542	#N/A	1.15	#N/A	<0.609	#N/A
Geochemical Constituents							
Alkalinity, Total as CaCO3	mg/L	345	#N/A	226	#N/A	189	#N/A
Alkalinity,Bicarbonate (CaCO3)	mg/L	345	#N/A	226	#N/A	189	#N/A
Alkalinity,Carbonate (CaCO3)	mg/L	<10	#N/A	<10	#N/A	<10	#N/A
Aluminum, Total	ug/L	308	#N/A	13	#N/A	<10	#N/A
Dissolved Organic Carbon	mg/L	1.5	#N/A	1.7	#N/A	1.1	#N/A
Iron, Total	ug/L	734	#N/A	7380	#N/A	114	#N/A
Iron, Ferrous	mg/L	<0.2	#N/A	3.1	#N/A	<0.2	#N/A
Iron, Dissolved	ug/L	<100	#N/A	7360	#N/A	124	#N/A
Magnesium, Total	ug/L	25600	#N/A	28500	#N/A	29700	#N/A
Magnesium, Dissolved	ug/L	24000	#N/A	28100	#N/A	30500	#N/A
Manganese, Total	ug/L	2920	#N/A	1250	#N/A	850	#N/A
Manganese, Dissolved	ug/L	1690	#N/A	1300	#N/A	891	#N/A
Nitrogen, Nitrate	mg/L	1.7	#N/A	<0.1	#N/A	<0.1	#N/A
Nitrogen, Nitrite	mg/L	<0.1	#N/A	<0.1	#N/A	<0.1	#N/A
Phosphate as P04	mg/L	<0.15	#N/A	0.5	#N/A	<0.15	#N/A
Potassium, Total	ug/L	<1000	#N/A	6110	#N/A	141000	#N/A
Potassium, Dissolved	ug/L	<1000	#N/A	6380	#N/A	138000	#N/A
Silica, Total	ug/L	12300	#N/A	12600	#N/A	17300	#N/A
Sodium, Total	ug/L	4760	#N/A	27500	#N/A	73500	#N/A
Sulfide	mg/L	<0.1	#N/A	0.078	#N/A	<0.1	#N/A
Total Organic Carbon	mg/L	<1	#N/A	1.2	#N/A	<1	#N/A

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

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

Table 5
Summary of Monitoring Results - May-June 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-33D2 (P5R1)
Sample Date		5/23/2023
Pace Lab ID		50345598001
Static Water Elevation		#N/A
Field Parameters		
Temperature, Field	°c	#N/A
Dissolved Oxygen, Field	mg/L	#N/A
Conductivity, Field	uS/cm	#N/A
ORP, Field	mV	#N/A
pH, Field	S.U.	#N/A
Turbidity, Field	NTU	#N/A
Appendix III Constituents		
Boron, Total	ug/L	1140
Calcium, Total	ug/L	9490
Chloride	mg/L	45.8
Fluoride	mg/L	3.2
Sulfate	mg/L	33
Total Dissolved Solids	mg/L	642
pH at 25 Degrees C	Std. Units	7.7
Appendix IV Constituents		
Antimony, Total	ug/L	<1
Arsenic, Total	ug/L	1.3
Barium, Total	ug/L	182
Beryllium, Total	ug/L	<0.2
Cadmium, Total	ug/L	<2
Chromium, Total	ug/L	<10
Cobalt, Total	ug/L	<1
Lead, Total	ug/L	<10
Lithium, Total	ug/L	53.8
Mercury	ug/L	<0.2
Molybdenum, Total	ug/L	13.7
Molybdenum, Dissolved	ug/L	11.9
Radium-226	pCi/L	<0
Radium-228	pCi/L	<-0.032
Selenium, Total	ug/L	<1
Thallium, Total	ug/L	<1
Total Radium	pCi/L	<0
Geochemical Constituents		
Alkalinity, Total as CaCO3	mg/L	491
Alkalinity,Bicarbonate (CaCO3)	mg/L	446
Alkalinity,Carbonate (CaCO3)	mg/L	45.2
Aluminum, Total	ug/L	210
Dissolved Organic Carbon	mg/L	<1
Iron, Total	ug/L	314
Iron, Ferrous	mg/L	<0.2
Iron, Dissolved	ug/L	188
Magnesium, Total	ug/L	2120
Magnesium, Dissolved	ug/L	1970
Manganese, Total	ug/L	36.2
Manganese, Dissolved	ug/L	31.9
Nitrogen, Nitrate	mg/L	<0.1
Nitrogen, Nitrite	mg/L	<0.1
Phosphate as P04	mg/L	<0.15
Potassium, Total	ug/L	4090
Potassium, Dissolved	ug/L	3720
Silica, Total	ug/L	9590
Sodium, Total	ug/L	240000
Sulfide	mg/L	0.065
Total Organic Carbon	mg/L	<1

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

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

Table 6
Summary of Monitoring Results - August 2023
RWS III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
Atlas Project No. 170LF01503

Well ID	Units	MW-1A	MW-12A
Sample Date		8/18/2023	8/17/2023
Pace Lab ID		50352141001	50352055001
Static Water Elevation		460.32	484.95
Field Parameters			
Temperature, Field	°c	25.43	18.78
Dissolved Oxygen, Field	mg/L	0.55	0.07
Conductivity, Field	uS/cm	826.35	352.40
ORP, Field	mV	-41.41	-56.66
pH, Field	S.U.	6.77	6.90
Turbidity, Field	NTU	43.20	8.48
Appendix III Constituents			
Boron, Total	ug/L	170	<100
Calcium, Total	ug/L	88000	46100
Chloride	mg/L	92.7	6.9
Fluoride	mg/L	<0.1	<0.1
Sulfate	mg/L	120	61.6
Total Dissolved Solids	mg/L	598	243
pH at 25 Degrees C	Std. Units	7.1	7.3
Appendix IV Constituents			
Antimony, Total	ug/L	<1	<1
Arsenic, Total	ug/L	1.5	<1
Barium, Total	ug/L	84.8	77.4
Beryllium, Total	ug/L	<0.2	<0.2
Cadmium, Total	ug/L	<2	<2
Chromium, Total	ug/L	<10	<10
Cobalt, Total	ug/L	<1	<1
Lead, Total	ug/L	<10	<10
Lithium, Total	ug/L	<20	<20
Mercury	ug/L	#N/A	<0.2
Molybdenum, Total	ug/L	<10	<10
Molybdenum, Dissolved	ug/L	<10	<10
Radium-226	pCi/L	1.5	0.402
Radium-228	pCi/L	1.15	0.458
Selenium, Total	ug/L	<1	<1
Thallium, Total	ug/L	<1	<1
Total Radium	pCi/L	2.65	0.86
Geochemical Constituents			
Alkalinity, Total as CaCO3	mg/L	231	124
Alkalinity,Bicarbonate (CaCO3)	mg/L	231	124
Alkalinity,Carbonate (CaCO3)	mg/L	<10	<10
Aluminum, Total	ug/L	174	<10
Dissolved Organic Carbon	mg/L	2.6	1
Iron, Total	ug/L	3410	3680
Iron, Ferrous	mg/L	<0.2	0.48
Iron, Dissolved	ug/L	2100	2560
Magnesium, Total	ug/L	24200	18000
Magnesium, Dissolved	ug/L	23700	17600
Manganese, Total	ug/L	262	533
Manganese, Dissolved	ug/L	257	504
Nitrogen, Nitrate	mg/L	<0.1	<0.1
Nitrogen, Nitrite	mg/L	<0.1	<0.1
Phosphate as P04	mg/L	0.15	0.27
Potassium, Total	ug/L	1640	1890
Potassium, Dissolved	ug/L	1340	1830
Silica, Total	ug/L	29600	17300
Sodium, Total	ug/L	80800	3920
Sulfide	mg/L	<0.1	<0.1
Total Organic Carbon	mg/L	2.3	<1

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

Final Date: 1/30/2024

Table 7
Groundwater Protection Standards - November 2022 and May 2023
RWS Type III Landfill
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATC Project No. 170LF01503

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

Appendix A: Gauging Data and Groundwater Flow Rate Calculations

Table A-1
Gauging Summary
November 1, 2022
Petersburg Generating Station - RWS Type III Landfill
Atlas Project No. 170LF01503

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	11/1/2022	9:30	30.80	528.11	497.31
MW-2R	11/1/2022	10:20	18.97	455.00	436.03
MW-3	11/1/2022	10:22	10.30	450.71	440.41
MW-4C	11/1/2022	10:08	6.15	454.44	448.29
MW-10	11/1/2022	11:04	40.68	502.38	461.70
MW-11	11/1/2022	10:46	31.41	517.51	486.10
MW-12	11/1/2022	10:58	30.31	517.64	487.33
MW-13	11/1/2022	10:05	15.45	480.97	465.52
Nature and Extent Wells					
MW-14	11/1/2022	13:25	17.60	443.37	425.77
MW-15	11/1/2022	13:28	24.50	444.11	419.61
MW-15B	11/4/2022	13:00	11.10	444.69	433.59
MW-16	11/1/2022	13:33	3.78	442.78	439.00
MW-19A	11/1/2022	14:10	18.38	421.41	403.03
MW-19I	11/1/2022	14:08	DRY	421.28	#VALUE!
MW-19B	11/1/2022	14:09	18.26	421.51	403.25
MW-22	11/1/2022	11:50	84.43	561.61	477.18
MW-23	11/1/2022	11:45	82.28	564.60	482.32
MW-24	11/1/2022	10:43	13.53	452.71	439.18
MW-30D1	11/1/2022	11:11	DRY	502.83	#VALUE!
MW-30D2	11/1/2022	11:15	92.37	502.82	410.45
MW-31D2	11/1/2022	11:02	39.81	453.91	414.10
MW-32I	11/1/2022	11:21	DRY	516.33	#VALUE!
MW-32D1	11/1/2022	11:25	73.84	516.22	442.38
MW-32D2	11/1/2022	11:27	51.12	516.29	465.17
MW-33I	11/1/2022	10:53	11.49	454.81	443.32
MW-33D2	11/1/2022	10:52	44.10	454.58	410.48
MW-34A	11/1/2022	12:01	22.16	498.25	476.09
MW-34D1	11/1/2022	12:02	31.82	498.82	467.00
MW-34SS	11/1/2022	12:04	31.74	498.95	467.21
MW-34D2	11/1/2022	12:06	83.31	499.31	416.00
MW-35D1	11/1/2022	10:16	16.25	470.09	453.84
MW-35SS	11/1/2022	10:18	20.50	470.16	449.66
MW-35D2	11/1/2022	10:17	56.45	470.54	414.09
Piezometers					
LW-1A	11/1/2022	10:55	16.35	504.40	488.05
LW-1B	11/1/2022	10:54	17.95	504.40	486.45
LW-2	11/1/2022	12:25	80.63	518.90	438.27
LW-6A	11/1/2022	12:20	43.78	518.90	475.12
LW-6B	11/1/2022	12:21	DRY	518.90	#VALUE!
LW-8A	11/1/2022	11:49	61.78	524.90	463.12
LW-8B	11/1/2022	11:48	31.63	524.90	493.27
LW-18	11/1/2022	10:49	47.95	510.70	462.75
LW-28A	11/1/2022	12:12	17.32	504.40	487.08
LW-28B	11/1/2022	12:10	20.32	504.40	484.08
MW-17	11/1/2022	13:18	17.82	472.33	454.51
MW-18	11/1/2022	10:33	9.17	458.27	449.10

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

Flow Rate Calculations - November 2022

AES Indiana Petersburg Generating Station - RWS III Landfill

Petersburg, Indiana

Atlas Project No. 170LF01503

PETERSBURG LF - ZONE B FIGURE 3		**RWS I LANDFILL**	
11/1/2022	Flow Rate Line	FR1	FR2
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	50
ΔL (ft)	Flow Line Length	2070	1450
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I (ΔH/ΔL)		0.019	0.035
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.18	0.33
PETERSBURG LF - ZONE A FIGURE 4			
11/1/2022	Flow Rate Line	FR1	
ΔH (ft)	Potentiometric surface hydraulic head change	20	
ΔL (ft)	Flow Line Length	620	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I (ΔH/ΔL)		0.032	
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.

v = Q/neA1 = KI/ne

Table A-2
Gauging Summary
May 1, 2023
Petersburg Generating Station - RWS Type III Landfill
Atlas Project No. 170LF01503

Well	Date	Time	DTW, from top of Reference Point	Reference Point Elevation (TOC)	SWE, ft MSL
Monitoring Wells					
MW-1	5/1/2023	13:01	30.95	528.11	497.16
MW-1A	5/1/2023	13:03	67.89	529.36	461.47
MW-2R	5/1/2023	8:10	13.13	455.00	441.87
MW-3	5/1/2023	8:16	9.71	450.71	441.00
MW-4C	5/1/2023	9:26	5.68	454.44	448.76
MW-10	5/1/2023	9:34	38.00	502.38	464.38
MW-11	5/1/2023	14:00	32.69	517.51	484.82
MW-12	5/1/2023	13:45	25.96	517.64	491.68
MW-12A	5/1/2023	13:50	27.88	516.97	489.09
MW-13	5/1/2023	14:18	12.73	480.97	468.24
Nature and Extent Wells					
MW-14	5/1/2023	9:50	16.77	443.37	426.60
MW-15	5/1/2023	9:54	21.26	444.11	422.85
MW-15B	5/1/2023	9:58	10.41	444.69	434.28
MW-16	5/1/2023	10:04	3.69	442.78	439.09
MW-19A	5/1/2023	9:16	12.74	421.41	408.67
MW-19I	5/1/2023	9:16	12.65	421.28	408.63
MW-19B	5/1/2023	9:16	12.61	421.51	408.90
MW-22	5/1/2023	13:16	84.56	561.61	477.05
MW-23	5/1/2023	13:27	DRY (102.8)	564.60	DRY
MW-24	5/1/2023	10:24	12.97	452.71	439.74
MW-30D1	5/1/2023	10:15	DRY (54.36)	502.83	DRY
MW-30D2	5/1/2023	10:18	87.27	502.82	415.55
MW-31D2	5/1/2023	10:26	36.04	453.91	417.87
MW-32I	5/1/2023	10:38	50.82	516.33	465.51
MW-32D1	5/1/2023	10:40	73.36	516.22	442.86
MW-32D2	5/1/2023	10:45	100.58	516.29	415.71
MW-33I	5/1/2023	10:47	11.34	454.81	443.47
MW-33D2	5/1/2023	10:50	38.04	454.58	416.54
MW-34A	5/1/2023	14:16	20.29	498.25	477.96
MW-34D1	5/1/2023	14:15	30.32	498.82	468.50
MW-34SS	5/1/2023	14:13	31.03	498.95	467.92
MW-34D2	5/1/2023	14:12	80.08	499.31	419.23
MW-35D1	5/1/2023	14:11	14.37	470.09	455.72
MW-35SS	5/1/2023	14:11	18.13	470.16	452.03
MW-35D2	5/1/2023	14:11	51.98	470.54	418.56
Piezometers					
LW-1A	5/1/2023	13:40	13.49	504.40	490.91
LW-1B	5/1/2023	13:38	DRY (26.53)	504.40	DRY
LW-2	5/1/2023	13:58	80.05	518.90	438.85
LW-6A	5/1/2023	13:55	42.78	518.90	476.12
LW-6B	5/1/2023	13:57	DRY (24.24)	518.90	DRY
LW-8A	5/1/2023	14:03	63.14	524.90	461.76
LW-8B	5/1/2023	14:02	31.66	524.90	493.24
LW-18	5/1/2023	10:10	48.31	510.70	462.39
LW-28A	5/1/2023	14:08	18.49	504.40	485.91
LW-28B	5/1/2023	14:08	16.50	504.40	487.90
MW-17	5/1/2023	9:14	14.81	472.33	457.52
MW-18	5/1/2023	9:19	5.87	458.27	452.40

TOC = top of casing
SWE = Static Water Level
DTW = Depth to Water
TBD = To Be Determined

Flow Rate Calculations - May 2023

AES Indiana Petersburg Generating Station - RWS III Landfill

Petersburg, Indiana

Atlas Project No. 170LF01503

PETERSBURG LF - ZONE B FIGURE 5		**RWS III LANDFILL**	
5/1/2023	Flow Rate Line	FR1	FR2
ΔH (ft)	Potentiometric Surface Hydraulic Head Change	40	50
ΔL (ft)	Flow Line Length	2050	1650
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	3.3	3.3
I (ΔH/ΔL)		0.020	0.030
n_e (porosity, dimensionless)		0.35	0.35
v (ft/day)		0.18	0.29
PETERSBURG LF - ZONE A FIGURE 6			
5/1/2023	Flow Rate Line	FR1	
ΔH (ft)	Potentiometric surface hydraulic head change	25	
ΔL (ft)	Flow Line Length	840	
K (hydraulic conductivity (ft/day))	N&E Well Slug Test Summary 2019-2021	0.21	
I (ΔH/ΔL)		0.03	
n_e (porosity, dimensionless)		0.35	
v (ft/day)		0.018	

Notes

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

v = Q/neA1 = KI/ne

Appendix B: Laboratory Certificates of Analyses

November 2022

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

March 20, 2023

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

RE: Project: Petersburg P3R3
Pace Project No.: 50330306

Dear Mr. Breting:

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P3R3
Pace Project No.: 50330306

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Petersburg P3R3
Pace Project No.: 50330306

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330306001	**MW-14**	Water	11/06/22 15:20	11/07/22 10:00
50330306002	**DUP-2**	Water	11/06/22 15:20	11/07/22 10:00
50330306003	**Field Blank 2**	Water	11/06/22 15:20	11/07/22 10:00
50330306004	**MW-15**	Water	11/06/22 16:45	11/07/22 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R3
Pace Project No.: 50330306

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330306001	**MW-14**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330306002	**DUP-2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330306003	**Field Blank 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330306004	**MW-15**	EPA 9056	RMR	3	PASI-I
		EPA 6010	MTM	7	PASI-I
		EPA 6010	JPK	3	PASI-I

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P3R3
Pace Project No.: 50330306

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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

SUMMARY OF DETECTION

Project: Petersburg P3R3
Pace Project No.: 50330306

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330306001	**MW-14**					
EPA 9056	Chloride	11.1	mg/L	0.25	11/12/22 18:59	
EPA 9056	Sulfate	220	mg/L	2.5	11/12/22 19:15	
EPA 6010	Aluminum	252	ug/L	200	11/18/22 11:02	
EPA 6010	Iron	5600	ug/L	100	11/18/22 11:02	
EPA 6010	Magnesium	40900	ug/L	1000	11/18/22 11:02	
EPA 6010	Manganese	2200	ug/L	10.0	11/18/22 11:02	
EPA 6010	Potassium	1320	ug/L	1000	11/18/22 11:02	
EPA 6010	Silica	16300	ug/L	450	11/18/22 11:02	N2
EPA 6010	Sodium	17800	ug/L	1000	11/18/22 11:02	
EPA 6010	Iron, Dissolved	4080	ug/L	100	11/19/22 01:25	
EPA 6010	Manganese, Dissolved	2150	ug/L	10.0	11/19/22 01:25	
SM 2320B	Alkalinity, Total as CaCO3	429	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	429	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	732	mg/L	20.0	11/10/22 09:57	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/09/22 16:14	H3
HACH 8146	Iron, Ferrous	1.4	mg/L	0.20	11/09/22 18:47	H3,N2
EPA 365.1	Phosphate as P04	1.6	mg/L	0.15	11/09/22 00:03	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/21/22 04:16	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/22/22 02:36	
50330306002	**DUP-2**					
EPA 9056	Chloride	11.0	mg/L	0.25	11/12/22 20:21	
EPA 9056	Sulfate	220	mg/L	2.5	11/12/22 20:37	
EPA 6010	Iron	4640	ug/L	100	11/18/22 11:04	
EPA 6010	Magnesium	40800	ug/L	1000	11/18/22 11:04	
EPA 6010	Manganese	2200	ug/L	10.0	11/18/22 11:04	
EPA 6010	Potassium	1220	ug/L	1000	11/18/22 11:04	
EPA 6010	Silica	15400	ug/L	450	11/18/22 11:04	N2
EPA 6010	Sodium	17900	ug/L	1000	11/18/22 11:04	
EPA 6010	Iron, Dissolved	4310	ug/L	100	11/19/22 01:27	
EPA 6010	Manganese, Dissolved	2180	ug/L	10.0	11/19/22 01:27	
SM 2320B	Alkalinity, Total as CaCO3	437	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	437	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	764	mg/L	20.0	11/10/22 09:58	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/09/22 16:15	H3
HACH 8146	Iron, Ferrous	1.6	mg/L	0.20	11/09/22 18:48	H3,N2
EPA 365.1	Phosphate as P04	0.65	mg/L	0.15	11/09/22 00:03	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/21/22 04:41	
SM 5310C	Dissolved Organic Carbon	3.0	mg/L	1.0	11/22/22 02:55	
50330306003	**Field Blank 2**					
SM 4500-H+B	pH at 25 Degrees C	6.2	Std. Units	0.10	11/09/22 16:19	H3
50330306004	**MW-15**					
EPA 9056	Chloride	74.5	mg/L	2.5	11/12/22 21:43	
EPA 9056	Sulfate	688	mg/L	25.0	11/12/22 22:00	
EPA 6010	Iron	2000	ug/L	100	11/18/22 11:09	
EPA 6010	Magnesium	39400	ug/L	1000	11/18/22 11:09	
EPA 6010	Manganese	399	ug/L	10.0	11/18/22 11:09	

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 P3R3
Pace Project No.: 50330306

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330306004	**MW-15**					
EPA 6010	Potassium	55000	ug/L	1000	11/18/22 11:09	
EPA 6010	Silica	17300	ug/L	450	11/18/22 11:09	N2
EPA 6010	Sodium	68500	ug/L	1000	11/18/22 11:09	
EPA 6010	Iron, Dissolved	1960	ug/L	100	11/19/22 01:30	
EPA 6010	Manganese, Dissolved	403	ug/L	10.0	11/19/22 01:30	
EPA 6010	Molybdenum, Dissolved	84.8	ug/L	10.0	11/19/22 01:30	
SM 2320B	Alkalinity, Total as CaCO3	234	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	234	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	1360	mg/L	20.0	11/10/22 09:58	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/10/22 16:00	H3
EPA 365.1	Phosphate as P04	0.34	mg/L	0.15	11/09/22 00:05	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	11/21/22 06:17	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/22/22 03:53	

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

ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: MW-14 **Lab ID: 50330306001** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**11.1**	mg/L	0.25	0.067	1		11/12/22 18:59	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/12/22 18:59	16984-48-8	
Sulfate	**220**	mg/L	2.5	0.85	10		11/12/22 19:15	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	**252**	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:02	7429-90-5	
Iron	**5600**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:02	7439-89-6	
Magnesium	**40900**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:02	7439-95-4	
Manganese	**2200**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:02	7439-96-5	
Potassium	**1320**	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:02	7440-09-7	
Silica	**16300**	ug/L	450		1	11/16/22 08:20	11/18/22 11:02	7631-86-9	N2
Sodium	**17800**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:02	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	**4080**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 01:25	7439-89-6	
Manganese, Dissolved	**2150**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 01:25	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 01:25	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**429**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**429**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**732**	mg/L	20.0	20.0	1		11/10/22 09:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		11/09/22 16:14		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 14:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.4**	mg/L	0.20	0.096	1		11/09/22 18:47	15438-31-0	H3,N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: MW-14 **Lab ID: 50330306001** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/07/22 18:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:25	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.6**	mg/L	0.15	0.15	1	11/09/22 00:03	11/09/22 00:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.14	1		11/21/22 04:16	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.14	1		11/22/22 02:36		

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: DUP-2 **Lab ID: 50330306002** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**11.0**	mg/L	0.25	0.067	1		11/12/22 20:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/12/22 20:21	16984-48-8	
Sulfate	**220**	mg/L	2.5	0.85	10		11/12/22 20:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:04	7429-90-5	
Iron	**4640**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:04	7439-89-6	
Magnesium	**40800**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:04	7439-95-4	
Manganese	**2200**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:04	7439-96-5	
Potassium	**1220**	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:04	7440-09-7	
Silica	**15400**	ug/L	450		1	11/16/22 08:20	11/18/22 11:04	7631-86-9	N2
Sodium	**17900**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:04	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**4310**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 01:27	7439-89-6	
Manganese, Dissolved	**2180**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 01:27	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 01:27	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**437**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**437**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**764**	mg/L	20.0	20.0	1		11/10/22 09:58		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		11/09/22 16:15		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 14:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.6**	mg/L	0.20	0.096	1		11/09/22 18:48	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: DUP-2 **Lab ID: 50330306002** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/07/22 18:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:27	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.65**	mg/L	0.15	0.15	1	11/09/22 00:03	11/09/22 00:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.14	1		11/21/22 04:41	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**3.0**	mg/L	1.0	0.14	1		11/22/22 02:55		

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: Field Blank 2 **Lab ID: 50330306003** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	0.067	1		11/12/22 21:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/12/22 21:10	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		11/12/22 21:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:07	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:07	7439-89-6	
Magnesium	ND	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:07	7439-95-4	
Manganese	ND	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:07	7439-96-5	
Potassium	ND	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:07	7440-09-7	
Silica	ND	ug/L	450		1	11/16/22 08:20	11/18/22 11:07	7631-86-9	N2
Sodium	ND	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:07	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/10/22 09:58		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.2**	Std. Units	0.10	0.10	1		11/09/22 16:19		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 14:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 18:48	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	0.011	1		11/07/22 18:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:29	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	0.15	1	11/09/22 00:04	11/09/22 00:04		

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: Field Blank 2 **Lab ID: 50330306003** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 05:06	7440-44-0	

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: MW-15 **Lab ID: 50330306004** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**74.5**	mg/L	2.5	0.67	10		11/12/22 21:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/12/22 21:27	16984-48-8	
Sulfate	**688**	mg/L	25.0	8.5	100		11/12/22 22:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:09	7429-90-5	
Iron	**2000**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:09	7439-89-6	
Magnesium	**39400**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:09	7439-95-4	
Manganese	**399**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:09	7439-96-5	
Potassium	**55000**	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:09	7440-09-7	
Silica	**17300**	ug/L	450		1	11/16/22 08:20	11/18/22 11:09	7631-86-9	N2
Sodium	**68500**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:09	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**1960**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 01:30	7439-89-6	
Manganese, Dissolved	**403**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 01:30	7439-96-5	
Molybdenum, Dissolved	**84.8**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 01:30	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**234**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**234**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1360**	mg/L	20.0	20.0	1		11/10/22 09:58		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		11/10/22 16:00		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 14:43	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:00	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330306

Sample: MW-15 **Lab ID: 50330306004** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/07/22 18:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.34**	mg/L	0.15	0.15	1	11/09/22 00:05	11/09/22 00:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.4**	mg/L	1.0	0.14	1		11/21/22 06:17	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.14	1		11/22/22 03:53		

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705260
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3241981 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:29	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:29	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:29	

LABORATORY CONTROL SAMPLE: 3241982

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	0.46	92	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241983 3241984

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	74.5	12.5	12.5	86.4	83.8	95	74	80-120	3	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.56	0.57	97	99	80-120	1	15	
Sulfate	mg/L	688	250	250	955	934	107	98	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705369
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3242457 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/18/22 10:58	
Iron	ug/L	ND	100	48.8	11/18/22 10:58	
Magnesium	ug/L	ND	1000	71.8	11/18/22 10:58	
Manganese	ug/L	ND	10.0	2.5	11/18/22 10:58	
Potassium	ug/L	ND	1000	281	11/18/22 10:58	
Silica	ug/L	ND	450		11/18/22 10:58	N2
Sodium	ug/L	ND	1000	214	11/18/22 10:58	

LABORATORY CONTROL SAMPLE: 3242458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Iron	ug/L	10000	9900	99	80-120	
Magnesium	ug/L	10000	9800	98	80-120	
Manganese	ug/L	1000	971	97	80-120	
Potassium	ug/L	10000	9860	99	80-120	
Silica	ug/L	10700	10500	98	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242459 3242460

Parameter	Units	50330306004 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	10800	11100	108	111	75-125	2	20	
Iron	ug/L	2000	10000	10000	11900	12000	99	100	75-125	1	20	
Magnesium	ug/L	39400	10000	10000	51400	50600	120	112	75-125	2	20	
Manganese	ug/L	399	1000	1000	1380	1390	98	99	75-125	1	20	
Potassium	ug/L	55000	10000	10000	67600	68000	126	130	75-125	0	20	P6
Silica	ug/L	17300	10700	10700	28600	28600	106	106	75-125	0	20	N2
Sodium	ug/L	68500	10000	10000	80500	80700	121	122	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242461 3242462

Parameter	Units	50330308002 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	11100	110	111	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242461 3242462

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	7240	10000	10000	16800	17200	95	99	75-125	2	20	
Magnesium	ug/L	8890	10000	10000	18200	18600	94	97	75-125	2	20	
Manganese	ug/L	2300	1000	1000	3210	3290	92	100	75-125	2	20	
Potassium	ug/L	15000	10000	10000	25700	26500	107	115	75-125	3	20	
Silica	ug/L	10800	10700	10700	21500	22100	100	105	75-125	2	20	N2
Sodium	ug/L	47800	10000	10000	57700	59600	99	118	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242463 3242464

Parameter	Units	50330313004 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	10800	11100	108	111	75-125	2	20	
Iron	ug/L	2000	10000	10000	11800	11800	98	98	75-125	0	20	
Magnesium	ug/L	39400	10000	10000	49200	49400	99	100	75-125	0	20	
Manganese	ug/L	394	1000	1000	1360	1350	96	96	75-125	0	20	
Potassium	ug/L	53300	10000	10000	63400	64300	100	110	75-125	1	20	
Silica	ug/L	17300	10700	10700	27900	28000	100	101	75-125	0	20	N2
Sodium	ug/L	66400	10000	10000	76000	77000	96	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 707123
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306004

METHOD BLANK: 3250657 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/19/22 01:18	
Manganese, Dissolved	ug/L	ND	10.0	2.5	11/19/22 01:18	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	11/19/22 01:18	

LABORATORY CONTROL SAMPLE: 3250658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Manganese, Dissolved	ug/L	2000	1920	96	80-120	
Molybdenum, Dissolved	ug/L	2000	2050	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250659 3250660

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1960	10000	10000	11700	11500	97	96	75-125	1	20	
Manganese, Dissolved	ug/L	403	1000	1000	1390	1360	99	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	84.8	1000	1000	1150	1130	106	105	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250661 3250662

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6800	10000	10000	16400	16600	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	2250	1000	1000	3250	3290	101	105	75-125	1	20	
Molybdenum, Dissolved	ug/L	607	1000	1000	1680	1710	107	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250663 3250664

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	9430	9540	94	95	75-125	1	20	
Manganese, Dissolved	ug/L	1360	1000	1000	2250	2290	89	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	300	1000	1000	1320	1340	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705021 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3240910 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/09/22 12:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 12:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 12:39	

LABORATORY CONTROL SAMPLE: 3240911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	90-110	

SAMPLE DUPLICATE: 3240912

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	234	238	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	234	238	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3240913

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50.2	51.4	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	50.2	51.4	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705488 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3243039 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/10/22 09:57	

LABORATORY CONTROL SAMPLE: 3243040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 3243041

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1360	1360	0	10	

SAMPLE DUPLICATE: 3243042

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2790	2760	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705337
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: 50330306001, 50330306002, 50330306003

SAMPLE DUPLICATE: 3242332

Parameter	Units	50330213001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 3242333

Parameter	Units	50330306003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.2	6.2	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705633
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: 50330306004

SAMPLE DUPLICATE: 3243858

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3243859

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3243860

Parameter	Units	50330414002 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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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705554
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: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3243390 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/10/22 14:43	

LABORATORY CONTROL SAMPLE: 3243391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243392 3243393

Parameter	Units	50330190001 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	95	92	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243394 3243395

Parameter	Units	50330306004 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	0.37	74	75	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243396 3243397

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.038J	0.5	0.5	0.48	0.49	89	91	90-110	2	20	M0

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705422
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003

METHOD BLANK: 3242723 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 18:40	H3,N2

LABORATORY CONTROL SAMPLE: 3242724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242725 3242726

Parameter	Units	50330190001 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	0.96	95	96	90-110	0	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242727 3242728

Parameter	Units	50330308002 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	4.1	25	25	28.5	29.0	98	100	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 705425
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330306004

METHOD BLANK: 3242745 Matrix: Water
Associated Lab Samples: 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 19:58	H3,N2

LABORATORY CONTROL SAMPLE: 3242746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242747 3242748

Parameter	Units	50330306004 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	97	100	90-110	4	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242749 3242750

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	109	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 704832
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: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3240195 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/07/22 18:03	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/07/22 18:03	

LABORATORY CONTROL SAMPLE: 3240196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240197 3240198

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.61	0.61	61	61	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.89	0.89	88	88	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240199 3240200

Parameter	Units	50330306004 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	93	93	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	98	98	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 704941
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: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3240617 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/09/22 20:39	

LABORATORY CONTROL SAMPLE: 3240618

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240619 3240620

Parameter	Units	50330306004 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	0.34			1.8	1.8				2		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240621 3240622

Parameter	Units	50330308002 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	1.5				11		

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 707234
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

METHOD BLANK: 3251085 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306003, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 03:30	

LABORATORY CONTROL SAMPLE: 3251086

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: 3251087 3251088

Parameter	Units	50330306004 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	11.3	11.4	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251089 3251090

Parameter	Units	50330308002 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	2.5	10	10	12.3	12.4	98	99	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330306

QC Batch: 707498
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330306001, 50330306002, 50330306004

METHOD BLANK: 3252612 Matrix: Water
Associated Lab Samples: 50330306001, 50330306002, 50330306004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/22/22 01:57	

LABORATORY CONTROL SAMPLE: 3252613

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252614 3252615

Parameter	Units	50330306004 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	11.1	11.0	97	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252616 3252617

Parameter	Units	50330308002 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	2.5	10	10	12.4	12.4	98	99	80-120	1	20	

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QUALIFIERS

Project: Petersburg P3R3
Pace Project No.: 50330306

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 P3R3
Pace Project No.: 50330306

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330306001	**MW-14**	EPA 9056	705260		
50330306002	**DUP-2**	EPA 9056	705260		
50330306003	**Field Blank 2**	EPA 9056	705260		
50330306004	**MW-15**	EPA 9056	705260		
50330306001	**MW-14**	EPA 3010	705369	EPA 6010	707140
50330306002	**DUP-2**	EPA 3010	705369	EPA 6010	707140
50330306003	**Field Blank 2**	EPA 3010	705369	EPA 6010	707140
50330306004	**MW-15**	EPA 3010	705369	EPA 6010	707140
50330306001	**MW-14**	EPA 3010	707123	EPA 6010	707306
50330306002	**DUP-2**	EPA 3010	707123	EPA 6010	707306
50330306004	**MW-15**	EPA 3010	707123	EPA 6010	707306
50330306001	**MW-14**	SM 2320B	705021		
50330306002	**DUP-2**	SM 2320B	705021		
50330306003	**Field Blank 2**	SM 2320B	705021		
50330306004	**MW-15**	SM 2320B	705021		
50330306001	**MW-14**	SM 2540C	705488		
50330306002	**DUP-2**	SM 2540C	705488		
50330306003	**Field Blank 2**	SM 2540C	705488		
50330306004	**MW-15**	SM 2540C	705488		
50330306001	**MW-14**	SM 4500-H+B	705337		
50330306002	**DUP-2**	SM 4500-H+B	705337		
50330306003	**Field Blank 2**	SM 4500-H+B	705337		
50330306004	**MW-15**	SM 4500-H+B	705633		
50330306001	**MW-14**	SM 4500-S2-D	705554		
50330306002	**DUP-2**	SM 4500-S2-D	705554		
50330306003	**Field Blank 2**	SM 4500-S2-D	705554		
50330306004	**MW-15**	SM 4500-S2-D	705554		
50330306001	**MW-14**	HACH 8146	705422		
50330306002	**DUP-2**	HACH 8146	705422		
50330306003	**Field Blank 2**	HACH 8146	705422		
50330306004	**MW-15**	HACH 8146	705425		
50330306001	**MW-14**	EPA 353.2	704832		
50330306002	**DUP-2**	EPA 353.2	704832		
50330306003	**Field Blank 2**	EPA 353.2	704832		
50330306004	**MW-15**	EPA 353.2	704832		
50330306001	**MW-14**	EPA 365.1	704941	EPA 365.1	705441
50330306002	**DUP-2**	EPA 365.1	704941	EPA 365.1	705441
50330306003	**Field Blank 2**	EPA 365.1	704941	EPA 365.1	705441
50330306004	**MW-15**	EPA 365.1	704941	EPA 365.1	705441
50330306001	**MW-14**	SM 5310C	707234		
50330306002	**DUP-2**	SM 5310C	707234		
50330306003	**Field Blank 2**	SM 5310C	707234		
50330306004	**MW-15**	SM 5310C	707234		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R3
Pace Project No.: 50330306

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330306001	**MW-14**	SM 5310C	707498		
50330306002	**DUP-2**	SM 5310C	707498		
50330306004	**MW-15**	SM 5310C	707498		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

WO# : 50330306

50330306

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 P3R3	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate				Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																					Y				Y						
1	MW-14					11-6	1520		9	X	X	X		X					X	X	X	X	X	X	X	X	X				001
2	DUP2					11-6	1520		9	X	X	X		X					X	X	X	X	X	X	X	X	X				002
3	Field Blank 2					11-6	1520		7	X	X	X		X					X	X	X	X	X	X	X	X	X				003
4	MW-15					11-6	1645		9	X	X	X		X					X	X	X	X	X	X	X	X	X				004
5	MS-2					11/6	1645		9	X	X	X		X					X	X	X	X	X	X	X	X	X				
6	MSD-2					11/6	1645		9	X	X	X		X					X	X	X	X	X	X	X	X	X				
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (k, Na, Mg, Mn)	Chris Burba	11-7-22	0800		11-7-22	0800				
		11-7-22	1000		11/7/22	1000	1.4	y	N	y
** Dissolved FF 6010 (Mo, Mn)							1.0			
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed:				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: JC JF 1055 11/7/22

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(s):** 1.7/1.4 | 1.3/1.0 | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** ~~Circle:~~ **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** ~~Any non-conformance to pH recommendations will be noted on the container count form~~	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO 3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 14:45			Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			
Custody Signatures Present?	✓		Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Containers Intact?:	✓		Headspace Wisconsin Sulfide?			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Extra labels on Terracore Vials? (soils only)			Trip Blank Present?		✓	
			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

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

		VIALS						AMBER GLASS							PLASTIC									OTHER							
		MeOH (only)																												
		SBS																												
		DI																												
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1				1	2	1	1	1		1					WT	✓	✓		✓
2												1	1				1	1	1	1	1		1						1	1		1
3												1					1	1	1		1		1						1	1		1
4												3	3				3	10	3	3	3		3						1	1		1
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P4R3
Pace Project No.: 50330309

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P4R3
Pace Project No.: 50330309

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330309001	**MW-19A**	Water	11/06/22 09:05	11/07/22 10:00
50330309002	**MW-19I**	Water	11/06/22 11:05	11/07/22 10:00
50330309003	**MW-19B**	Water	11/06/22 12:55	11/07/22 10:00
50330309004	**MW-20A**	Water	11/06/22 16:00	11/07/22 10:00
50330309005	**MW-20I**	Water	11/06/22 17:20	11/07/22 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330309001	**MW-19A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330309002	**MW-19I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330309003	**MW-19B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330309004	**MW-20A**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330309005	**MW-20I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330309001	**MW-19A**					
EPA 9056	Chloride	101	mg/L	25.0	11/13/22 00:02	
EPA 9056	Sulfate	1360	mg/L	25.0	11/13/22 00:02	
EPA 6010	Barium	37.2	ug/L	10.0	11/18/22 11:35	
EPA 6010	Boron	23100	ug/L	100	11/18/22 11:35	
EPA 6010	Calcium	560000	ug/L	5000	11/18/22 14:01	
EPA 6010	Iron	9310	ug/L	100	11/18/22 11:35	
EPA 6010	Magnesium	31600	ug/L	1000	11/18/22 11:35	
EPA 6010	Manganese	1780	ug/L	10.0	11/18/22 11:35	
EPA 6010	Molybdenum	682	ug/L	10.0	11/18/22 11:35	
EPA 6010	Potassium	13500	ug/L	1000	11/18/22 11:35	
EPA 6010	Silica	12300	ug/L	450	11/18/22 11:35	N2
EPA 6010	Sodium	44500	ug/L	1000	11/18/22 11:35	
EPA 6010	Iron, Dissolved	8580	ug/L	100	11/19/22 01:56	
EPA 6010	Manganese, Dissolved	1730	ug/L	10.0	11/19/22 01:56	
EPA 6010	Molybdenum, Dissolved	680	ug/L	10.0	11/19/22 01:56	
EPA 6020	Arsenic	1.1	ug/L	1.0	11/14/22 01:55	
EPA 903.1	Radium-226	0.0762 ± 0.495 (0.998) C:NA T:102%	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	0.333 ± 0.252 (0.486) C:87% T:93%	pCi/L		12/01/22 14:47	
Total Radium Calculation	Total Radium	0.409 ± 0.747 (1.48)	pCi/L		12/02/22 11:30	
SM 2320B	Alkalinity, Total as CaCO3	127	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	127	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	2380	mg/L	40.0	11/10/22 10:00	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/22 16:05	H3
HACH 8146	Iron, Ferrous	5.4	mg/L	1.0	11/09/22 18:45	H3,N2
EPA 365.1	Phosphate as P04	0.29	mg/L	0.15	11/09/22 00:11	
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	11/21/22 09:03	
SM 5310C	Dissolved Organic Carbon	2.5	mg/L	1.0	11/22/22 06:34	
50330309002	**MW-19I**					
EPA 9056	Chloride	10.1	mg/L	0.25	11/13/22 00:19	
EPA 9056	Fluoride	0.13	mg/L	0.10	11/13/22 00:19	
EPA 9056	Sulfate	42.8	mg/L	2.5	11/13/22 00:35	
EPA 6010	Barium	51.2	ug/L	10.0	11/18/22 11:37	
EPA 6010	Boron	716	ug/L	100	11/18/22 11:37	
EPA 6010	Calcium	89100	ug/L	1000	11/18/22 11:37	
EPA 6010	Magnesium	20900	ug/L	1000	11/18/22 11:37	
EPA 6010	Manganese	1570	ug/L	10.0	11/18/22 11:37	
EPA 6010	Silica	8650	ug/L	450	11/18/22 11:37	N2
EPA 6010	Sodium	6900	ug/L	1000	11/18/22 11:37	
EPA 6010	Manganese, Dissolved	1440	ug/L	10.0	11/19/22 01:58	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330309002	**MW-19I**					
EPA 6020	Cobalt	1.2	ug/L	1.0	11/14/22 01:59	
EPA 6020	Selenium	1.6	ug/L	1.0	11/14/22 01:59	
EPA 903.1	Radium-226	0.247 ± 0.427 (0.764) C:NA T:92%	pCi/L		11/29/22 15:44	
EPA 904.0	Radium-228	0.479 ± 0.337 (0.649) C:85% T:86%	pCi/L		12/01/22 14:47	
Total Radium Calculation	Total Radium	0.726 ± 0.764 (1.41)	pCi/L		12/02/22 11:30	
SM 2320B	Alkalinity, Total as CaCO3	272	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	272	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	376	mg/L	10.0	11/10/22 10:03	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/10/22 16:06	H3
EPA 353.2	Nitrogen, Nitrate	3.2	mg/L	0.10	11/07/22 18:10	
50330309003	**MW-19B**					
EPA 9056	Chloride	11.0	mg/L	2.5	11/13/22 01:57	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/13/22 01:41	
EPA 9056	Sulfate	46.2	mg/L	2.5	11/13/22 01:57	
EPA 6010	Barium	71.4	ug/L	10.0	11/18/22 11:44	
EPA 6010	Boron	548	ug/L	100	11/18/22 11:44	
EPA 6010	Calcium	121000	ug/L	1000	11/18/22 11:44	
EPA 6010	Magnesium	25400	ug/L	1000	11/18/22 11:44	
EPA 6010	Silica	11300	ug/L	450	11/18/22 11:44	N2
EPA 6010	Sodium	7250	ug/L	1000	11/18/22 11:44	
EPA 6020	Selenium	2.8	ug/L	1.0	11/14/22 11:11	
EPA 903.1	Radium-226	-0.0828 ± 0.429 (0.994) C:NA T:95%	pCi/L		11/29/22 15:44	
EPA 904.0	Radium-228	0.163 ± 0.286 (0.626) C:86% T:88%	pCi/L		12/01/22 14:47	
Total Radium Calculation	Total Radium	0.163 ± 0.715 (1.62)	pCi/L		12/02/22 11:30	
SM 2320B	Alkalinity, Total as CaCO3	344	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	344	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	475	mg/L	10.0	11/10/22 10:03	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/22 16:07	H3
EPA 353.2	Nitrogen, Nitrate	5.4	mg/L	0.50	11/07/22 18:53	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	11/22/22 07:58	
50330309004	**MW-20A**					
EPA 9056	Chloride	73.0	mg/L	2.5	11/13/22 02:30	

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 P4R3
Pace Project No.: 50330309

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330309004	**MW-20A**					
EPA 9056	Sulfate	924	mg/L	25.0	11/13/22 02:47	
EPA 6010	Aluminum	301	ug/L	200	11/18/22 11:46	
EPA 6010	Barium	38.2	ug/L	10.0	11/18/22 11:46	
EPA 6010	Boron	13800	ug/L	100	11/18/22 11:46	
EPA 6010	Calcium	403000	ug/L	3000	11/18/22 14:03	
EPA 6010	Iron	8500	ug/L	100	11/18/22 11:46	
EPA 6010	Magnesium	32500	ug/L	1000	11/18/22 11:46	
EPA 6010	Manganese	1410	ug/L	10.0	11/18/22 11:46	
EPA 6010	Molybdenum	385	ug/L	10.0	11/18/22 11:46	
EPA 6010	Potassium	6250	ug/L	1000	11/18/22 11:46	
EPA 6010	Silica	12800	ug/L	450	11/18/22 11:46	N2
EPA 6010	Sodium	30200	ug/L	1000	11/18/22 11:46	
EPA 6010	Iron, Dissolved	5730	ug/L	100	11/19/22 02:07	
EPA 6010	Manganese, Dissolved	1340	ug/L	10.0	11/19/22 02:07	
EPA 6010	Molybdenum, Dissolved	249	ug/L	10.0	11/19/22 02:07	
EPA 6020	Arsenic	1.8	ug/L	1.0	11/14/22 11:16	
EPA 903.1	Radium-226	0.519 ± 0.486 (0.689) C:NA T:97%	pCi/L		11/29/22 15:44	
EPA 904.0	Radium-228	0.793 ± 0.357 (0.584) C:87% T:91%	pCi/L		12/01/22 14:48	
Total Radium Calculation	Total Radium	1.31 ± 0.843 (1.27)	pCi/L		12/02/22 11:30	
SM 2320B	Alkalinity, Total as CaCO3	214	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	214	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	1730	mg/L	20.0	11/10/22 10:03	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/22 16:09	H3
HACH 8146	Iron, Ferrous	3.1	mg/L	0.33	11/09/22 19:59	H3,N2
EPA 365.1	Phosphate as P04	0.38	mg/L	0.15	11/09/22 00:15	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/21/22 11:04	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	11/22/22 08:18	
50330309005	**MW-20I**					
EPA 9056	Chloride	7.7	mg/L	0.25	11/13/22 03:03	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/13/22 03:03	
EPA 9056	Sulfate	27.2	mg/L	2.5	11/13/22 03:19	
EPA 6010	Barium	50.8	ug/L	10.0	11/18/22 11:48	
EPA 6010	Boron	435	ug/L	100	11/18/22 11:48	
EPA 6010	Calcium	105000	ug/L	1000	11/18/22 11:48	
EPA 6010	Iron	289	ug/L	100	11/18/22 11:48	
EPA 6010	Magnesium	22900	ug/L	1000	11/18/22 11:48	
EPA 6010	Manganese	1770	ug/L	10.0	11/18/22 11:48	
EPA 6010	Silica	10900	ug/L	450	11/18/22 11:48	N2
EPA 6010	Sodium	4690	ug/L	1000	11/18/22 11:48	
EPA 6010	Manganese, Dissolved	1490	ug/L	10.0	11/19/22 02:09	

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

SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330309005	**MW-20I**					
EPA 6020	Cobalt	1.7	ug/L	1.0	11/14/22 11:21	
EPA 6020	Selenium	1.7	ug/L	1.0	11/14/22 11:21	
EPA 903.1	Radium-226	0.389 ± 0.406 (0.573) C:NA T:93%	pCi/L		11/29/22 15:44	
EPA 904.0	Radium-228	0.367 ± 0.280 (0.548) C:86% T:96%	pCi/L		12/01/22 14:48	
Total Radium Calculation	Total Radium	0.756 ± 0.686 (1.12)	pCi/L		12/02/22 11:30	
SM 2320B	Alkalinity, Total as CaCO3	322	mg/L	10.0	11/09/22 12:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	322	mg/L	10.0	11/09/22 12:39	
SM 2540C	Total Dissolved Solids	389	mg/L	10.0	11/10/22 10:04	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/10/22 14:25	H3
EPA 353.2	Nitrogen, Nitrate	2.5	mg/L	0.10	11/07/22 18:38	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	11/22/22 08:44	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19A **Lab ID: 50330309001** Collected: 11/06/22 09:05 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**101**	mg/L	25.0	6.7	100		11/13/22 00:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/12/22 23:46	16984-48-8	
Sulfate	**1360**	mg/L	25.0	8.5	100		11/13/22 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	55.4	1	11/16/22 08:20	11/18/22 11:35	7429-90-5	
Barium	**37.2**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:35	7440-39-3	
Boron	**23100**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:35	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:35	7440-43-9	
Calcium	**560000**	ug/L	5000	815	5	11/16/22 08:20	11/18/22 14:01	7440-70-2	
Iron	**9310**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:35	7439-89-6	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:35	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:35	7439-93-2	
Magnesium	**31600**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:35	7439-95-4	
Manganese	**1780**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:35	7439-96-5	
Molybdenum	**682**	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:35	7439-98-7	
Potassium	**13500**	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:35	7440-09-7	
Silica	**12300**	ug/L	450		1	11/16/22 08:20	11/18/22 11:35	7631-86-9	N2
Sodium	**44500**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:35	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	**8580**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 01:56	7439-89-6	
Manganese, Dissolved	**1730**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 01:56	7439-96-5	
Molybdenum, Dissolved	**680**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 01:56	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	0.075	1	11/09/22 16:38	11/14/22 01:55	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 01:55	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 01:55	7440-41-7	
Cobalt	ND	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 01:55	7440-48-4	
Selenium	ND	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 01:55	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**127**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**127**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2380**	mg/L	40.0	40.0	1		11/10/22 10:00		

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

ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19A **Lab ID: 50330309001** Collected: 11/06/22 09:05 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		11/10/22 16:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 15:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**5.4**	mg/L	1.0	0.48	5		11/09/22 18:45	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	0.011	1		11/07/22 18:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:06	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.29**	mg/L	0.15	0.15	1	11/09/22 00:11	11/09/22 00:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.3**	mg/L	1.0	0.14	1		11/21/22 09:03	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.5**	mg/L	1.0	0.14	1		11/22/22 06:34		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19I **Lab ID: 50330309002** Collected: 11/06/22 11:05 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**10.1**	mg/L	0.25	0.067	1		11/13/22 00:19	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	0.017	1		11/13/22 00:19	16984-48-8	
Sulfate	**42.8**	mg/L	2.5	0.85	10		11/13/22 00:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:37	7429-90-5	
Barium	**51.2**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:37	7440-39-3	
Boron	**716**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:37	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:37	7440-43-9	
Calcium	**89100**	ug/L	1000	163	1	11/16/22 08:20	11/18/22 11:37	7440-70-2	
Iron	ND	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:37	7439-89-6	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:37	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:37	7439-93-2	
Magnesium	**20900**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:37	7439-95-4	
Manganese	**1570**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:37	7439-96-5	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:37	7439-98-7	
Potassium	ND	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:37	7440-09-7	
Silica	**8650**	ug/L	450		1	11/16/22 08:20	11/18/22 11:37	7631-86-9	N2
Sodium	**6900**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:37	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 01:58	7439-89-6	
Manganese, Dissolved	**1440**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 01:58	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 01:58	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	0.075	1	11/09/22 16:38	11/14/22 01:59	7440-36-0	
Arsenic	ND	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 01:59	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 01:59	7440-41-7	
Cobalt	**1.2**	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 01:59	7440-48-4	
Selenium	**1.6**	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 01:59	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**272**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**272**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**376**	mg/L	10.0	10.0	1		11/10/22 10:03		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19I **Lab ID: 50330309002** Collected: 11/06/22 11:05 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		11/10/22 16:06		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 15:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 18:46	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**3.2**	mg/L	0.10	0.011	1		11/07/22 18:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:10	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/09/22 00:11	11/09/22 00:11		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 09:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.14	1		11/22/22 07:00		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19B **Lab ID: 50330309003** Collected: 11/06/22 12:55 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**11.0**	mg/L	2.5	0.67	10		11/13/22 01:57	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		11/13/22 01:41	16984-48-8	
Sulfate	**46.2**	mg/L	2.5	0.85	10		11/13/22 01:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:44	7429-90-5	
Barium	**71.4**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:44	7440-39-3	
Boron	**548**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:44	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:44	7440-43-9	
Calcium	**121000**	ug/L	1000	163	1	11/16/22 08:20	11/18/22 11:44	7440-70-2	
Iron	ND	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:44	7439-89-6	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:44	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:44	7439-93-2	
Magnesium	**25400**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:44	7439-95-4	
Manganese	ND	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:44	7439-96-5	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:44	7439-98-7	
Potassium	ND	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:44	7440-09-7	
Silica	**11300**	ug/L	450		1	11/16/22 08:20	11/18/22 11:44	7631-86-9	N2
Sodium	**7250**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:44	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:05	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:05	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:05	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	0.075	1	11/09/22 16:38	11/14/22 11:11	7440-36-0	
Arsenic	ND	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 11:11	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 11:11	7440-41-7	
Cobalt	ND	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 11:11	7440-48-4	
Selenium	**2.8**	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 11:11	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**344**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**344**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**475**	mg/L	10.0	10.0	1		11/10/22 10:03		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19B **Lab ID: 50330309003** Collected: 11/06/22 12:55 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		11/10/22 16:07		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 15:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 19:59	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**5.4**	mg/L	0.50	0.055	5		11/07/22 18:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	0.020	5		11/07/22 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	ND	mg/L	0.15	0.15	1	11/09/22 00:12	11/09/22 00:12		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 10:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.6**	mg/L	1.0	0.14	1		11/22/22 07:58		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20A **Lab ID: 50330309004** Collected: 11/06/22 16:00 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**73.0**	mg/L	2.5	0.67	10		11/13/22 02:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/13/22 02:14	16984-48-8	
Sulfate	**924**	mg/L	25.0	8.5	100		11/13/22 02:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**301**	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:46	7429-90-5	
Barium	**38.2**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:46	7440-39-3	
Boron	**13800**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:46	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:46	7440-43-9	
Calcium	**403000**	ug/L	3000	489	3	11/16/22 08:20	11/18/22 14:03	7440-70-2	
Iron	**8500**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:46	7439-89-6	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:46	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:46	7439-93-2	
Magnesium	**32500**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:46	7439-95-4	
Manganese	**1410**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:46	7439-96-5	
Molybdenum	**385**	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:46	7439-98-7	
Potassium	**6250**	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:46	7440-09-7	
Silica	**12800**	ug/L	450		1	11/16/22 08:20	11/18/22 11:46	7631-86-9	N2
Sodium	**30200**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:46	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**5730**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:07	7439-89-6	
Manganese, Dissolved	**1340**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:07	7439-96-5	
Molybdenum, Dissolved	**249**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:07	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.075	1	11/09/22 16:38	11/14/22 11:16	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 11:16	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 11:16	7440-41-7	
Cobalt	ND	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 11:16	7440-48-4	
Selenium	ND	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 11:16	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**214**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**214**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1730**	mg/L	20.0	20.0	1		11/10/22 10:03		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20A **Lab ID: 50330309004** Collected: 11/06/22 16:00 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		11/10/22 16:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 15:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**3.1**	mg/L	0.33	0.16	1.67		11/09/22 19:59	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/07/22 18:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:30	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.38**	mg/L	0.15	0.15	1	11/09/22 00:15	11/09/22 00:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.14	1		11/21/22 11:04	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.14	1		11/22/22 08:18		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20I **Lab ID: 50330309005** Collected: 11/06/22 17:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**7.7**	mg/L	0.25	0.067	1		11/13/22 03:03	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		11/13/22 03:03	16984-48-8	
Sulfate	**27.2**	mg/L	2.5	0.85	10		11/13/22 03:19	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/16/22 08:20	11/18/22 11:48	7429-90-5	
Barium	**50.8**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:48	7440-39-3	
Boron	**435**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:48	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:48	7440-43-9	
Calcium	**105000**	ug/L	1000	163	1	11/16/22 08:20	11/18/22 11:48	7440-70-2	
Iron	**289**	ug/L	100	48.8	1	11/16/22 08:20	11/18/22 11:48	7439-89-6	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:48	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:48	7439-93-2	
Magnesium	**22900**	ug/L	1000	71.8	1	11/16/22 08:20	11/18/22 11:48	7439-95-4	
Manganese	**1770**	ug/L	10.0	2.5	1	11/16/22 08:20	11/18/22 11:48	7439-96-5	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:48	7439-98-7	
Potassium	ND	ug/L	1000	281	1	11/16/22 08:20	11/18/22 11:48	7440-09-7	
Silica	**10900**	ug/L	450		1	11/16/22 08:20	11/18/22 11:48	7631-86-9	N2
Sodium	**4690**	ug/L	1000	214	1	11/16/22 08:20	11/18/22 11:48	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:09	7439-89-6	
Manganese, Dissolved	**1490**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:09	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:09	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	0.075	1	11/09/22 16:38	11/14/22 11:21	7440-36-0	
Arsenic	ND	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 11:21	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 11:21	7440-41-7	
Cobalt	**1.7**	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 11:21	7440-48-4	
Selenium	**1.7**	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 11:21	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**322**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Bicarbonate (CaCO3)	**322**	mg/L	10.0	10.0	1		11/09/22 12:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**389**	mg/L	10.0	10.0	1		11/10/22 10:04		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20I **Lab ID: 50330309005** Collected: 11/06/22 17:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		11/10/22 14:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/10/22 15:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:01	15438-31-0	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	0.011	1		11/07/22 18:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/07/22 18:38	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/09/22 00:15	11/09/22 00:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 11:30	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.3**	mg/L	1.0	0.14	1		11/22/22 08:44		

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705652
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3243949 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/13/22 15:51	
Fluoride	mg/L	ND	0.10	0.017	11/13/22 15:51	
Sulfate	mg/L	ND	0.25	0.085	11/13/22 15:51	

LABORATORY CONTROL SAMPLE: 3243950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	95	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243951 3243952

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	139	125	125	256	255	93	93	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.54	0.55	107	110	80-120	2	15	
Sulfate	mg/L	1590	250	250	1880	1860	117	108	80-120	1	15	

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

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705369
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3242457 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/18/22 10:58	
Barium	ug/L	ND	10.0	2.1	11/18/22 10:58	
Boron	ug/L	ND	100	37.6	11/18/22 10:58	
Cadmium	ug/L	ND	2.0	0.66	11/18/22 10:58	
Calcium	ug/L	ND	1000	163	11/18/22 10:58	
Iron	ug/L	ND	100	48.8	11/18/22 10:58	
Lead	ug/L	ND	10.0	2.6	11/18/22 10:58	
Lithium	ug/L	ND	20.0	6.2	11/18/22 10:58	
Magnesium	ug/L	ND	1000	71.8	11/18/22 10:58	
Manganese	ug/L	ND	10.0	2.5	11/18/22 10:58	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 10:58	
Potassium	ug/L	ND	1000	281	11/18/22 10:58	
Silica	ug/L	ND	450		11/18/22 10:58	N2
Sodium	ug/L	ND	1000	214	11/18/22 10:58	

LABORATORY CONTROL SAMPLE: 3242458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	80-120	
Barium	ug/L	1000	993	99	80-120	
Boron	ug/L	1000	1000	100	80-120	
Cadmium	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	9910	99	80-120	
Iron	ug/L	10000	9900	99	80-120	
Lead	ug/L	1000	978	98	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	10000	9800	98	80-120	
Manganese	ug/L	1000	971	97	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	9860	99	80-120	
Silica	ug/L	10700	10500	98	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242459 3242460

Parameter	Units	50330306004 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	10800	11100	108	111	75-125	2	20	
Barium	ug/L	90.7	1000	1000	1100	1140	101	105	75-125	3	20	
Boron	ug/L	1210	1000	1000	2310	2330	110	112	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1030	1050	103	105	75-125	2	20	
Calcium	ug/L	233000	10000	10000	253000	249000	195	155	75-125	2	20	E,P6
Iron	ug/L	2000	10000	10000	11900	12000	99	100	75-125	1	20	
Lead	ug/L	ND	1000	1000	981	1010	98	101	75-125	3	20	
Lithium	ug/L	743	1000	1000	1850	1880	111	114	75-125	2	20	
Magnesium	ug/L	39400	10000	10000	51400	50600	120	112	75-125	2	20	
Manganese	ug/L	399	1000	1000	1380	1390	98	99	75-125	1	20	
Molybdenum	ug/L	88.0	1000	1000	1160	1180	107	110	75-125	3	20	
Potassium	ug/L	55000	10000	10000	67600	68000	126	130	75-125	0	20	P6
Silica	ug/L	17300	10700	10700	28600	28600	106	106	75-125	0	20	N2
Sodium	ug/L	68500	10000	10000	80500	80700	121	122	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242461 3242462

Parameter	Units	50330308002 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	11100	110	111	75-125	1	20	
Barium	ug/L	31.6	1000	1000	1050	1060	102	103	75-125	1	20	
Boron	ug/L	28400	1000	1000	29200	30300	75	186	75-125	4	20	P6
Cadmium	ug/L	ND	1000	1000	1040	1050	104	105	75-125	1	20	
Calcium	ug/L	680000	10000	10000	700000	682000	195	15	75-125	3	20	P6
Iron	ug/L	7240	10000	10000	16800	17200	95	99	75-125	2	20	
Lead	ug/L	ND	1000	1000	966	975	97	97	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1140	1150	113	114	75-125	1	20	
Magnesium	ug/L	8890	10000	10000	18200	18600	94	97	75-125	2	20	
Manganese	ug/L	2300	1000	1000	3210	3290	92	100	75-125	2	20	
Molybdenum	ug/L	634	1000	1000	1690	1730	106	110	75-125	2	20	
Potassium	ug/L	15000	10000	10000	25700	26500	107	115	75-125	3	20	
Silica	ug/L	10800	10700	10700	21500	22100	100	105	75-125	2	20	N2
Sodium	ug/L	47800	10000	10000	57700	59600	99	118	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242463 3242464

Parameter	Units	50330313004 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	10800	11100	108	111	75-125	2	20	
Barium	ug/L	91.7	1000	1000	1100	1120	101	103	75-125	2	20	
Boron	ug/L	1210	1000	1000	2260	2270	105	106	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1030	1030	103	103	75-125	0	20	
Calcium	ug/L	239000	10000	10000	244000	248000	50	86	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242463 3242464

Parameter	Units	50330313004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	2000	10000	10000	11800	11800	98	98	75-125	0	20	
Lead	ug/L	ND	1000	1000	981	989	98	99	75-125	1	20	
Lithium	ug/L	713	1000	1000	1800	1830	109	112	75-125	1	20	
Magnesium	ug/L	39400	10000	10000	49200	49400	99	100	75-125	0	20	
Manganese	ug/L	394	1000	1000	1360	1350	96	96	75-125	0	20	
Molybdenum	ug/L	84.0	1000	1000	1150	1150	107	107	75-125	0	20	
Potassium	ug/L	53300	10000	10000	63400	64300	100	110	75-125	1	20	
Silica	ug/L	17300	10700	10700	27900	28000	100	101	75-125	0	20	N2
Sodium	ug/L	66400	10000	10000	76000	77000	96	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 707123
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3250657 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/19/22 01:18	
Manganese, Dissolved	ug/L	ND	10.0	2.5	11/19/22 01:18	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	11/19/22 01:18	

LABORATORY CONTROL SAMPLE: 3250658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Manganese, Dissolved	ug/L	2000	1920	96	80-120	
Molybdenum, Dissolved	ug/L	2000	2050	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250659 3250660

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1960	10000	10000	11700	11500	97	96	75-125	1	20	
Manganese, Dissolved	ug/L	403	1000	1000	1390	1360	99	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	84.8	1000	1000	1150	1130	106	105	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250661 3250662

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6800	10000	10000	16400	16600	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	2250	1000	1000	3250	3290	101	105	75-125	1	20	
Molybdenum, Dissolved	ug/L	607	1000	1000	1680	1710	107	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250663 3250664

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	9430	9540	94	95	75-125	1	20	
Manganese, Dissolved	ug/L	1360	1000	1000	2250	2290	89	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	300	1000	1000	1320	1340	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705178
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3241630 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.075	11/13/22 16:52	
Arsenic	ug/L	ND	1.0	0.17	11/13/22 16:52	
Beryllium	ug/L	ND	0.20	0.021	11/13/22 16:52	
Cobalt	ug/L	ND	1.0	0.041	11/13/22 16:52	
Selenium	ug/L	ND	1.0	0.33	11/13/22 16:52	

LABORATORY CONTROL SAMPLE: 3241631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	80-120	
Arsenic	ug/L	40	38.4	96	80-120	
Beryllium	ug/L	40	38.8	97	80-120	
Cobalt	ug/L	40	39.7	99	80-120	
Selenium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241632 3241633

Parameter	Units	50330308002 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	40.9	103	102	75-125	0	20	
Arsenic	ug/L	ND	40	40	40.1	39.8	98	97	75-125	1	20	
Beryllium	ug/L	ND	40	40	41.8	42.5	105	106	75-125	1	20	
Cobalt	ug/L	ND	40	40	42.3	42.7	104	105	75-125	1	20	
Selenium	ug/L	ND	40	40	42.9	41.8	106	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705021
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3240910 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/09/22 12:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 12:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 12:39	

LABORATORY CONTROL SAMPLE: 3240911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	90-110	

SAMPLE DUPLICATE: 3240912

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	234	238	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	234	238	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3240913

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50.2	51.4	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	50.2	51.4	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705488 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3243039 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/10/22 09:57	

LABORATORY CONTROL SAMPLE: 3243040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 3243041

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1360	1360	0	10	

SAMPLE DUPLICATE: 3243042

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2790	2760	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705572
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: 50330309005

SAMPLE DUPLICATE: 3243456

Parameter	Units	50330313004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3243457

Parameter	Units	50330360003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705633
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: 50330309001, 50330309002, 50330309003, 50330309004

SAMPLE DUPLICATE: 3243858

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3243859

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3243860

Parameter	Units	50330414002 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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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705555 | 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: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3243400 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/10/22 15:32	

LABORATORY CONTROL SAMPLE: 3243401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243402 3243403

Parameter	Units	50330360003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.43	90	86	90-110	5	20	M0

MATRIX SPIKE SAMPLE: 3243404

Parameter	Units	50330309003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.60	120	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705422
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002

METHOD BLANK: 3242723 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 18:40	H3,N2

LABORATORY CONTROL SAMPLE: 3242724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242725 3242726

Parameter	Units	50330190001 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	0.96	95	96	90-110	0	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242727 3242728

Parameter	Units	50330308002 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	4.1	25	25	28.5	29.0	98	100	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 705425
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309003, 50330309004, 50330309005

METHOD BLANK: 3242745 Matrix: Water
Associated Lab Samples: 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 19:58	H3,N2

LABORATORY CONTROL SAMPLE: 3242746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242747 3242748

Parameter	Units	50330306004 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	97	100	90-110	4	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242749 3242750

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	109	90-110	2	20	H3,N2

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 704832
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: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3240195 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/07/22 18:03	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/07/22 18:03	

LABORATORY CONTROL SAMPLE: 3240196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240197 3240198

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.61	0.61	61	61	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.89	0.89	88	88	90-110	0	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240199 3240200

Parameter	Units	50330306004 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	93	93	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	98	98	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 704941
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: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3240617 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/09/22 20:39	

LABORATORY CONTROL SAMPLE: 3240618

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240619 3240620

Parameter	Units	50330306004 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	0.34			1.8	1.8				2		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3240621 3240622

Parameter	Units	50330308002 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	1.5				11		

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 707234 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3251085 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 03:30	

LABORATORY CONTROL SAMPLE: 3251086

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: 3251087 3251088

Parameter	Units	50330306004 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	11.3	11.4	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251089 3251090

Parameter	Units	50330308002 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	2.5	10	10	12.3	12.4	98	99	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 707498 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 3252612 — Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/22/22 01:57	

LABORATORY CONTROL SAMPLE: 3252613

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252614 3252615

Parameter	Units	50330306004 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	11.1	11.0	97	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252616 3252617

Parameter	Units	50330308002 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	2.5	10	10	12.4	12.4	98	99	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19A **Lab ID: 50330309001** Collected: 11/06/22 09:05 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0762 ± 0.495 (0.998) C:NA T:102%**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.333 ± 0.252 (0.486) C:87% T:93%**	pCi/L	12/01/22 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.409 ± 0.747 (1.48)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19I **Lab ID: 50330309002** Collected: 11/06/22 11:05 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.247 ± 0.427 (0.764) C:NA T:92%**	pCi/L	11/29/22 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.479 ± 0.337 (0.649) C:85% T:86%**	pCi/L	12/01/22 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.726 ± 0.764 (1.41)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-19B **Lab ID: 50330309003** Collected: 11/06/22 12:55 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0828 ± 0.429 (0.994) C:NA T:95%**	pCi/L	11/29/22 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.163 ± 0.286 (0.626) C:86% T:88%**	pCi/L	12/01/22 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.163 ± 0.715 (1.62)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20A **Lab ID: 50330309004** Collected: 11/06/22 16:00 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.519 ± 0.486 (0.689) C:NA T:97%**	pCi/L	11/29/22 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.793 ± 0.357 (0.584) C:87% T:91%**	pCi/L	12/01/22 14:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.31 ± 0.843 (1.27)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

Sample: MW-20I **Lab ID: 50330309005** Collected: 11/06/22 17:20 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.389 ± 0.406 (0.573) C:NA T:93%**	pCi/L	11/29/22 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.367 ± 0.280 (0.548) C:86% T:96%**	pCi/L	12/01/22 14:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.756 ± 0.686 (1.12)**	pCi/L	12/02/22 11:30	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 546155
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: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 2652161 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.198 ± 0.251 (0.530) C:87% T:90%	pCi/L	12/01/22 11:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50330309

QC Batch: 546154
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: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

METHOD BLANK: 2652158 Matrix: Water
Associated Lab Samples: 50330309001, 50330309002, 50330309003, 50330309004, 50330309005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.382 (0.858) C:NA T:98%	pCi/L	11/29/22 15:30	

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QUALIFIERS

Project: Petersburg P4R3
Pace Project No.: 50330309

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330309001	**MW-19A**	EPA 9056	705652		
50330309002	**MW-19I**	EPA 9056	705652		
50330309003	**MW-19B**	EPA 9056	705652		
50330309004	**MW-20A**	EPA 9056	705652		
50330309005	**MW-20I**	EPA 9056	705652		
50330309001	**MW-19A**	EPA 3010	705369	EPA 6010	707140
50330309002	**MW-19I**	EPA 3010	705369	EPA 6010	707140
50330309003	**MW-19B**	EPA 3010	705369	EPA 6010	707140
50330309004	**MW-20A**	EPA 3010	705369	EPA 6010	707140
50330309005	**MW-20I**	EPA 3010	705369	EPA 6010	707140
50330309001	**MW-19A**	EPA 3010	707123	EPA 6010	707306
50330309002	**MW-19I**	EPA 3010	707123	EPA 6010	707306
50330309003	**MW-19B**	EPA 3010	707123	EPA 6010	707306
50330309004	**MW-20A**	EPA 3010	707123	EPA 6010	707306
50330309005	**MW-20I**	EPA 3010	707123	EPA 6010	707306
50330309001	**MW-19A**	EPA 200.2	705178	EPA 6020	705453
50330309002	**MW-19I**	EPA 200.2	705178	EPA 6020	705453
50330309003	**MW-19B**	EPA 200.2	705178	EPA 6020	705453
50330309004	**MW-20A**	EPA 200.2	705178	EPA 6020	705453
50330309005	**MW-20I**	EPA 200.2	705178	EPA 6020	705453
50330309001	**MW-19A**	EPA 903.1	546154		
50330309002	**MW-19I**	EPA 903.1	546154		
50330309003	**MW-19B**	EPA 903.1	546154		
50330309004	**MW-20A**	EPA 903.1	546154		
50330309005	**MW-20I**	EPA 903.1	546154		
50330309001	**MW-19A**	EPA 904.0	546155		
50330309002	**MW-19I**	EPA 904.0	546155		
50330309003	**MW-19B**	EPA 904.0	546155		
50330309004	**MW-20A**	EPA 904.0	546155		
50330309005	**MW-20I**	EPA 904.0	546155		
50330309001	**MW-19A**	Total Radium Calculation	551011		
50330309002	**MW-19I**	Total Radium Calculation	551011		
50330309003	**MW-19B**	Total Radium Calculation	551011		
50330309004	**MW-20A**	Total Radium Calculation	551011		
50330309005	**MW-20I**	Total Radium Calculation	551011		
50330309001	**MW-19A**	SM 2320B	705021		
50330309002	**MW-19I**	SM 2320B	705021		
50330309003	**MW-19B**	SM 2320B	705021		
50330309004	**MW-20A**	SM 2320B	705021		
50330309005	**MW-20I**	SM 2320B	705021		
50330309001	**MW-19A**	SM 2540C	705488		
50330309002	**MW-19I**	SM 2540C	705488		
50330309003	**MW-19B**	SM 2540C	705488		
50330309004	**MW-20A**	SM 2540C	705488		
50330309005	**MW-20I**	SM 2540C	705488		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50330309

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330309001	**MW-19A**	SM 4500-H+B	705633		
50330309002	**MW-19I**	SM 4500-H+B	705633		
50330309003	**MW-19B**	SM 4500-H+B	705633		
50330309004	**MW-20A**	SM 4500-H+B	705633		
50330309005	**MW-20I**	SM 4500-H+B	705572		
50330309001	**MW-19A**	SM 4500-S2-D	705555		
50330309002	**MW-19I**	SM 4500-S2-D	705555		
50330309003	**MW-19B**	SM 4500-S2-D	705555		
50330309004	**MW-20A**	SM 4500-S2-D	705555		
50330309005	**MW-20I**	SM 4500-S2-D	705555		
50330309001	**MW-19A**	HACH 8146	705422		
50330309002	**MW-19I**	HACH 8146	705422		
50330309003	**MW-19B**	HACH 8146	705425		
50330309004	**MW-20A**	HACH 8146	705425		
50330309005	**MW-20I**	HACH 8146	705425		
50330309001	**MW-19A**	EPA 353.2	704832		
50330309002	**MW-19I**	EPA 353.2	704832		
50330309003	**MW-19B**	EPA 353.2	704832		
50330309004	**MW-20A**	EPA 353.2	704832		
50330309005	**MW-20I**	EPA 353.2	704832		
50330309001	**MW-19A**	EPA 365.1	704941	EPA 365.1	705441
50330309002	**MW-19I**	EPA 365.1	704941	EPA 365.1	705441
50330309003	**MW-19B**	EPA 365.1	704941	EPA 365.1	705441
50330309004	**MW-20A**	EPA 365.1	704941	EPA 365.1	705441
50330309005	**MW-20I**	EPA 365.1	704941	EPA 365.1	705441
50330309001	**MW-19A**	SM 5310C	707234		
50330309002	**MW-19I**	SM 5310C	707234		
50330309003	**MW-19B**	SM 5310C	707234		
50330309004	**MW-20A**	SM 5310C	707234		
50330309005	**MW-20I**	SM 5310C	707234		
50330309001	**MW-19A**	SM 5310C	707498		
50330309002	**MW-19I**	SM 5310C	707498		
50330309003	**MW-19B**	SM 5310C	707498		
50330309004	**MW-20A**	SM 5310C	707498		
50330309005	**MW-20I**	SM 5310C	707498		

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

WO# : 50330309

50330309

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 P4R3	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 10498/28

Regulatory Agency	
State / Location	
	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Rad-226/228 + Sum		Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																			Y				Y						
1	MW-19A						0905		11	X	X	X		X					X	X	X	X	X	X	X	X	X			001
2	MW-19I						1105		11	X	X	X		X					X	X	X	X	X	X	X	X	X			002
3	MW-19B						1255		11	X	X	X		X					X	X	X	X	X	X	X	X	X			003
4	MW-20A						1600		11	X	X	X		X					X	X	X	X	X	X	X	X	X			004
5	MW-20I						1720		11	X	X	X		X					X	X	X	X	X	X	X	X	X			005
6	MW-20B (DRY WELL)																													
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, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Chris Burks	11-7-22	0800		11-7-22	0800	see			
6020 (Be, Co, As, Se, Sb)		11-7-22	1000		11-7-22	10:00	scan	y	N	y
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:		TEMP in C	Received on Ice (Y/N)
SIGNATURE of SAMPLER:	DATE Signed:		Custody Sealed Cooler (Y/N) / Samples Intact (Y/N)

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 11-7-22 10:49

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)

1.4/1.5	1.1/1.2	1.8/1.9	1.3/1.4

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓
Short Hold Time Analysis (48 hours or less)? Analysis: NO3	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 15:25	
Rush TAT Requested (4 days or less):		✓
Custody Signatures Present?	✓	
Containers Intact?:	✓ RC 11-7-22	
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: Temp: 1.0/1.1 COC does not have dates recorded but sample container read 11-6-22 RC 11-7-22

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC									OTHER							
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	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1				WT	✓	✓		✓
2																															
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P2R3
Pace Project No.: 50330313

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R3
Pace Project No.: 50330313

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P2R3
Pace Project No.: 50330313

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330313001	**MW-14**	Water	11/06/22 15:20	11/07/22 10:00
50330313002	**DUP-2**	Water	11/06/22 15:20	11/07/22 10:00
50330313003	**Field Blank 2**	Water	11/06/22 15:20	11/07/22 10:00
50330313004	**MW-15**	Water	11/06/22 16:45	11/07/22 10:00
50330313005	**MW-15 MS**	Water	11/06/22 16:45	11/07/22 10:00
50330313006	**MW-15 MSD**	Water	11/06/22 16:45	11/07/22 10:00

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50330313

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330313001	**MW-14**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330313002	**DUP-2**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330313003	**Field Blank 2**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330313004	**MW-15**	EPA 9056	ADM	3	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330313005	**MW-15 MS**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
50330313006	**MW-15 MSD**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50330313

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

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

SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50330313

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330313001	**MW-14**					
EPA 9056	Chloride	10.8	mg/L	0.25	11/18/22 07:43	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/18/22 07:43	
EPA 9056	Sulfate	225	mg/L	2.5	11/14/22 15:08	
EPA 6010	Barium	74.9	ug/L	10.0	11/18/22 11:50	
EPA 6010	Boron	623	ug/L	100	11/18/22 11:50	
EPA 6010	Calcium	174000	ug/L	1000	11/18/22 11:50	
EPA 6020	Arsenic	5.3	ug/L	1.0	11/14/22 11:31	
EPA 6020	Cobalt	1.4	ug/L	1.0	11/14/22 11:31	
EPA 903.1	Radium-226	0.164 ± 0.557 (1.07) C:NA T:96%	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	0.546 ± 0.312 (0.553) C:87% T:84%	pCi/L		12/01/22 11:48	
Total Radium Calculation	Total Radium	0.710 ± 0.869 (1.62)	pCi/L		12/02/22 11:30	
SM 2540C	Total Dissolved Solids	776	mg/L	20.0	11/10/22 10:04	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/22 14:26	H3
50330313002	**DUP-2**					
EPA 9056	Chloride	10.6	mg/L	0.25	11/18/22 08:00	
EPA 9056	Sulfate	225	mg/L	2.5	11/14/22 15:57	
EPA 6010	Barium	73.1	ug/L	10.0	11/18/22 11:53	
EPA 6010	Boron	618	ug/L	100	11/18/22 11:53	
EPA 6010	Calcium	174000	ug/L	1000	11/18/22 11:53	
EPA 6020	Arsenic	4.0	ug/L	1.0	11/14/22 11:36	
EPA 6020	Cobalt	1.4	ug/L	1.0	11/14/22 11:36	
EPA 903.1	Radium-226	0.173 ± 0.679 (1.30) C:NA T:91%	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	0.257 ± 0.278 (0.578) C:89% T:87%	pCi/L		12/01/22 11:48	
Total Radium Calculation	Total Radium	0.430 ± 0.957 (1.88)	pCi/L		12/02/22 11:30	
SM 2540C	Total Dissolved Solids	784	mg/L	20.0	11/10/22 10:04	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/22 14:27	H3
50330313003	**Field Blank 2**					
EPA 903.1	Radium-226	0.000 ± 0.362 (0.736) C:NA T:106%	pCi/L		11/29/22 15:30	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50330313

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330313003	**Field Blank 2**					
EPA 904.0	Radium-228	0.163 ± 0.265 (0.576) C:89% T:94%	pCi/L		12/01/22 11:48	
Total Radium Calculation	Total Radium	0.163 ± 0.627 (1.31)	pCi/L		12/02/22 11:30	
SM 4500-H+B	pH at 25 Degrees C	6.4	Std. Units	0.10	11/10/22 14:29	H3
50330313004	**MW-15**					
EPA 9056	Chloride	71.9	mg/L	2.5	11/14/22 16:47	
EPA 9056	Sulfate	677	mg/L	25.0	11/14/22 17:03	
EPA 6010	Barium	91.7	ug/L	10.0	11/18/22 11:57	
EPA 6010	Boron	1210	ug/L	100	11/18/22 11:57	
EPA 6010	Calcium	239000	ug/L	2000	11/18/22 14:05	
EPA 6010	Lithium	713	ug/L	20.0	11/18/22 11:57	
EPA 6010	Molybdenum	84.0	ug/L	10.0	11/18/22 11:57	
EPA 903.1	Radium-226	0.769 ± 0.587 (0.835) C:NA T:96%	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	0.759 ± 0.366 (0.620) C:89% T:83%	pCi/L		12/01/22 11:48	
Total Radium Calculation	Total Radium	1.53 ± 0.953 (1.46)	pCi/L		12/02/22 11:30	
SM 2540C	Total Dissolved Solids	1360	mg/L	20.0	11/10/22 09:37	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/10/22 14:30	H3
50330313005	**MW-15 MS**					
EPA 903.1	Radium-226	97.91 %REC ± NA (NA) C:NA T:NA	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	71.75 %REC ± NA (NA) C:NA T:NA	pCi/L		12/01/22 14:47	
50330313006	**MW-15 MSD**					
EPA 903.1	Radium-226	76.48 %REC 24.58RPD ± NA (NA) C:NA T:NA	pCi/L		11/29/22 15:30	
EPA 904.0	Radium-228	81.56 %REC 12.79RPD ± NA (NA) C:NA T:NA	pCi/L		12/01/22 14:47	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-14 **Lab ID: 50330313001** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**10.8**	mg/L	0.25	0.067	1		11/18/22 07:43	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.017	1		11/18/22 07:43	16984-48-8	
Sulfate	**225**	mg/L	2.5	0.85	10		11/14/22 15:08	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**74.9**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:50	7440-39-3	
Boron	**623**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:50	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:50	7440-43-9	
Calcium	**174000**	ug/L	1000	163	1	11/16/22 08:20	11/18/22 11:50	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/16/22 08:20	11/18/22 11:50	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:50	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:50	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:50	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.075	1	11/09/22 16:38	11/14/22 11:31	7440-36-0	
Arsenic	**5.3**	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 11:31	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 11:31	7440-41-7	
Cobalt	**1.4**	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 11:31	7440-48-4	
Selenium	ND	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 11:31	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**776**	mg/L	20.0	20.0	1		11/10/22 10:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/10/22 14:26		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: DUP-2 **Lab ID: 50330313002** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**10.6**	mg/L	0.25	0.067	1		11/18/22 08:00	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/18/22 08:00	16984-48-8	
Sulfate	**225**	mg/L	2.5	0.85	10		11/14/22 15:57	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**73.1**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:53	7440-39-3	
Boron	**618**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:53	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:53	7440-43-9	
Calcium	**174000**	ug/L	1000	163	1	11/16/22 08:20	11/18/22 11:53	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/16/22 08:20	11/18/22 11:53	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:53	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:53	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 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	0.075	1	11/09/22 16:38	11/14/22 11:36	7440-36-0	
Arsenic	**4.0**	ug/L	1.0	0.17	1	11/09/22 16:38	11/14/22 11:36	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/09/22 16:38	11/14/22 11:36	7440-41-7	
Cobalt	**1.4**	ug/L	1.0	0.041	1	11/09/22 16:38	11/14/22 11:36	7440-48-4	
Selenium	ND	ug/L	1.0	0.33	1	11/09/22 16:38	11/14/22 11:36	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**784**	mg/L	20.0	20.0	1		11/10/22 10:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/10/22 14:27		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: Field Blank 2 **Lab ID: 50330313003** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	0.067	1		11/18/22 08:17	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/18/22 08:17	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		11/18/22 08:17	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	ND	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 12:13	7440-39-3	
Boron	ND	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 12:13	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 12:13	7440-43-9	
Calcium	ND	ug/L	1000	163	1	11/16/22 08:20	11/18/22 12:13	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/16/22 08:20	11/18/22 12:13	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 12:13	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 12:13	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 12:13	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	0.13	1	11/09/22 18:00	11/11/22 20:56	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/09/22 18:00	11/11/22 20:56	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/09/22 18:00	11/11/22 20:56	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/09/22 18:00	11/11/22 20:56	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/09/22 18:00	11/11/22 20:56	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/10/22 10:05		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.4**	Std. Units	0.10	0.10	1		11/10/22 14:29		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-15 **Lab ID: 50330313004** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**71.9**	mg/L	2.5	0.67	10		11/14/22 16:47	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/18/22 08:35	16984-48-8	
Sulfate	**677**	mg/L	25.0	8.5	100		11/14/22 17:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**91.7**	ug/L	10.0	2.1	1	11/16/22 08:20	11/18/22 11:57	7440-39-3	
Boron	**1210**	ug/L	100	37.6	1	11/16/22 08:20	11/18/22 11:57	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/16/22 08:20	11/18/22 11:57	7440-43-9	
Calcium	**239000**	ug/L	2000	326	2	11/16/22 08:20	11/18/22 14:05	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/16/22 08:20	11/18/22 11:57	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/16/22 08:20	11/18/22 11:57	7439-92-1	
Lithium	**713**	ug/L	20.0	6.2	1	11/16/22 08:20	11/18/22 11:57	7439-93-2	
Molybdenum	**84.0**	ug/L	10.0	3.7	1	11/16/22 08:20	11/18/22 11:57	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/09/22 18:00	11/11/22 20:36	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/09/22 18:00	11/11/22 20:36	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/09/22 18:00	11/11/22 20:36	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/09/22 18:00	11/11/22 20:36	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/09/22 18:00	11/11/22 20:36	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1360**	mg/L	20.0	20.0	1		11/10/22 09:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		11/10/22 14:30		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705798
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004

METHOD BLANK: 3244470 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/18/22 07:46	
Fluoride	mg/L	ND	0.10	0.017	11/18/22 07:46	
Sulfate	mg/L	ND	0.25	0.085	11/18/22 07:46	

LABORATORY CONTROL SAMPLE: 3244471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.50	99	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244472 3244473

Parameter	Units	50330313004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	71.9	12.5	12.5	85.9	85.8	112	112	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.59	0.60	100	102	80-120	1	15	
Sulfate	mg/L	677	250	250	913	898	94	88	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705369
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004

METHOD BLANK: 3242457 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/18/22 10:58	
Boron	ug/L	ND	100	37.6	11/18/22 10:58	
Cadmium	ug/L	ND	2.0	0.66	11/18/22 10:58	
Calcium	ug/L	ND	1000	163	11/18/22 10:58	
Chromium	ug/L	ND	10.0	0.97	11/18/22 10:58	
Lead	ug/L	ND	10.0	2.6	11/18/22 10:58	
Lithium	ug/L	ND	20.0	6.2	11/18/22 10:58	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 10:58	

LABORATORY CONTROL SAMPLE: 3242458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	993	99	80-120	
Boron	ug/L	1000	1000	100	80-120	
Cadmium	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	9910	99	80-120	
Chromium	ug/L	1000	1020	102	80-120	
Lead	ug/L	1000	978	98	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242459 3242460

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	90.7	1000	1000	1100	1140	101	105	75-125	3	20	
Boron	ug/L	1210	1000	1000	2310	2330	110	112	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1030	1050	103	105	75-125	2	20	
Calcium	ug/L	233000	10000	10000	253000	249000	195	155	75-125	2	20	E,P6
Chromium	ug/L	ND	1000	1000	1020	1060	102	106	75-125	4	20	
Lead	ug/L	ND	1000	1000	981	1010	98	101	75-125	3	20	
Lithium	ug/L	743	1000	1000	1850	1880	111	114	75-125	2	20	
Molybdenum	ug/L	88.0	1000	1000	1160	1180	107	110	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242461 3242462

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	31.6	1000	1000	1050	1060	102	103	75-125	1	20	
Boron	ug/L	28400	1000	1000	29200	30300	75	186	75-125	4	20	P6
Cadmium	ug/L	ND	1000	1000	1040	1050	104	105	75-125	1	20	
Calcium	ug/L	680000	10000	10000	700000	682000	195	15	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	1020	1040	102	104	75-125	2	20	
Lead	ug/L	ND	1000	1000	966	975	97	97	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1140	1150	113	114	75-125	1	20	
Molybdenum	ug/L	634	1000	1000	1690	1730	106	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242463 3242464

Parameter	Units	50330313004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	91.7	1000	1000	1100	1120	101	103	75-125	2	20	
Boron	ug/L	1210	1000	1000	2260	2270	105	106	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1030	1030	103	103	75-125	0	20	
Calcium	ug/L	239000	10000	10000	244000	248000	50	86	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	1020	1040	102	104	75-125	2	20	
Lead	ug/L	ND	1000	1000	981	989	98	99	75-125	1	20	
Lithium	ug/L	713	1000	1000	1800	1830	109	112	75-125	1	20	
Molybdenum	ug/L	84.0	1000	1000	1150	1150	107	107	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705178
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313001, 50330313002

METHOD BLANK: 3241630 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.075	11/13/22 16:52	
Arsenic	ug/L	ND	1.0	0.17	11/13/22 16:52	
Beryllium	ug/L	ND	0.20	0.021	11/13/22 16:52	
Cobalt	ug/L	ND	1.0	0.041	11/13/22 16:52	
Selenium	ug/L	ND	1.0	0.33	11/13/22 16:52	

LABORATORY CONTROL SAMPLE: 3241631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	80-120	
Arsenic	ug/L	40	38.4	96	80-120	
Beryllium	ug/L	40	38.8	97	80-120	
Cobalt	ug/L	40	39.7	99	80-120	
Selenium	ug/L	40	39.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241632 3241633

Parameter	Units	50330308002 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	40.9	103	102	75-125	0	20	
Arsenic	ug/L	ND	40	40	40.1	39.8	98	97	75-125	1	20	
Beryllium	ug/L	ND	40	40	41.8	42.5	105	106	75-125	1	20	
Cobalt	ug/L	ND	40	40	42.3	42.7	104	105	75-125	1	20	
Selenium	ug/L	ND	40	40	42.9	41.8	106	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705179
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313003, 50330313004

METHOD BLANK: 3241634 Matrix: Water
Associated Lab Samples: 50330313003, 50330313004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	11/11/22 20:28	
Arsenic	ug/L	ND	1.0	0.11	11/11/22 20:28	
Beryllium	ug/L	ND	0.20	0.033	11/11/22 20:28	
Cobalt	ug/L	ND	1.0	0.086	11/11/22 20:28	
Selenium	ug/L	ND	1.0	0.35	11/11/22 20:28	

LABORATORY CONTROL SAMPLE: 3241635

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.1	103	80-120	
Arsenic	ug/L	40	38.6	97	80-120	
Beryllium	ug/L	40	40.1	100	80-120	
Cobalt	ug/L	40	41.3	103	80-120	
Selenium	ug/L	40	40.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241636 3241637

Parameter	Units	50330313004 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	42.6	42.3	105	104	75-125	1	20	
Arsenic	ug/L	ND	40	40	39.0	39.4	97	98	75-125	1	20	
Beryllium	ug/L	ND	40	40	39.9	40.0	100	100	75-125	0	20	
Cobalt	ug/L	ND	40	40	38.5	38.9	96	97	75-125	1	20	
Selenium	ug/L	ND	40	40	41.3	42.4	103	106	75-125	3	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 P2R3
Pace Project No.: 50330313

QC Batch: 705483
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313004

METHOD BLANK: 3243030 Matrix: Water
Associated Lab Samples: 50330313004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/10/22 09:28	

LABORATORY CONTROL SAMPLE: 3243043

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	291	97	80-120	

SAMPLE DUPLICATE: 3243032

Parameter	Units	50330190001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	457	456	0	10	

SAMPLE DUPLICATE: 3243044

Parameter	Units	50330313004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1360	1370	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705488 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330313001, 50330313002, 50330313003

METHOD BLANK: 3243039 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002, 50330313003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/10/22 09:57	

LABORATORY CONTROL SAMPLE: 3243040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	284	95	80-120	

SAMPLE DUPLICATE: 3243041

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1360	1360	0	10	

SAMPLE DUPLICATE: 3243042

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2790	2760	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 705572
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: 50330313001, 50330313002, 50330313003, 50330313004

SAMPLE DUPLICATE: 3243456

Parameter	Units	50330313004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3243457

Parameter	Units	50330360003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-14 **Lab ID: 50330313001** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.164 ± 0.557 (1.07) C:NA T:96%**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.546 ± 0.312 (0.553) C:87% T:84%**	pCi/L	12/01/22 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.710 ± 0.869 (1.62)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: DUP-2 **Lab ID: 50330313002** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.173 ± 0.679 (1.30) C:NA T:91%**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.257 ± 0.278 (0.578) C:89% T:87%**	pCi/L	12/01/22 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.430 ± 0.957 (1.88)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: Field Blank 2 **Lab ID: 50330313003** Collected: 11/06/22 15:20 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.362 (0.736) C:NA T:106%**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.163 ± 0.265 (0.576) C:89% T:94%**	pCi/L	12/01/22 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.163 ± 0.627 (1.31)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-15 **Lab ID: 50330313004** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.769 ± 0.587 (0.835) C:NA T:96%**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.759 ± 0.366 (0.620) C:89% T:83%**	pCi/L	12/01/22 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.53 ± 0.953 (1.46)**	pCi/L	12/02/22 11:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-15 MS **Lab ID: 50330313005** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**97.91 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**71.75 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/01/22 14:47	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

Sample: MW-15 MSD **Lab ID: 50330313006** Collected: 11/06/22 16:45 Received: 11/07/22 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**76.48 %REC 24.58RPD ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 15:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**81.56 %REC 12.79RPD ± NA (NA) C:NA T:NA**	pCi/L	12/01/22 14:47	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 546155
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: 50330313001, 50330313002, 50330313003, 50330313004, 50330313005, 50330313006

METHOD BLANK: 2652161 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004, 50330313005, 50330313006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.198 ± 0.251 (0.530) C:87% T:90%	pCi/L	12/01/22 11:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330313

QC Batch: 546154
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: 50330313001, 50330313002, 50330313003, 50330313004, 50330313005, 50330313006

METHOD BLANK: 2652158 Matrix: Water
Associated Lab Samples: 50330313001, 50330313002, 50330313003, 50330313004, 50330313005, 50330313006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.382 (0.858) C:NA T:98%	pCi/L	11/29/22 15:30	

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QUALIFIERS

Project: Petersburg P2R3
Pace Project No.: 50330313

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
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 P2R3
Pace Project No.: 50330313

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330313001	**MW-14**	EPA 9056	705798		
50330313002	**DUP-2**	EPA 9056	705798		
50330313003	**Field Blank 2**	EPA 9056	705798		
50330313004	**MW-15**	EPA 9056	705798		
50330313001	**MW-14**	EPA 3010	705369	EPA 6010	707140
50330313002	**DUP-2**	EPA 3010	705369	EPA 6010	707140
50330313003	**Field Blank 2**	EPA 3010	705369	EPA 6010	707140
50330313004	**MW-15**	EPA 3010	705369	EPA 6010	707140
50330313001	**MW-14**	EPA 200.2	705178	EPA 6020	705453
50330313002	**DUP-2**	EPA 200.2	705178	EPA 6020	705453
50330313003	**Field Blank 2**	EPA 200.2	705179	EPA 6020	705460
50330313004	**MW-15**	EPA 200.2	705179	EPA 6020	705460
50330313001	**MW-14**	EPA 903.1	546154		
50330313002	**DUP-2**	EPA 903.1	546154		
50330313003	**Field Blank 2**	EPA 903.1	546154		
50330313004	**MW-15**	EPA 903.1	546154		
50330313005	**MW-15 MS**	EPA 903.1	546154		
50330313006	**MW-15 MSD**	EPA 903.1	546154		
50330313001	**MW-14**	EPA 904.0	546155		
50330313002	**DUP-2**	EPA 904.0	546155		
50330313003	**Field Blank 2**	EPA 904.0	546155		
50330313004	**MW-15**	EPA 904.0	546155		
50330313005	**MW-15 MS**	EPA 904.0	546155		
50330313006	**MW-15 MSD**	EPA 904.0	546155		
50330313001	**MW-14**	Total Radium Calculation	551011		
50330313002	**DUP-2**	Total Radium Calculation	551011		
50330313003	**Field Blank 2**	Total Radium Calculation	551011		
50330313004	**MW-15**	Total Radium Calculation	551011		
50330313001	**MW-14**	SM 2540C	705488		
50330313002	**DUP-2**	SM 2540C	705488		
50330313003	**Field Blank 2**	SM 2540C	705488		
50330313004	**MW-15**	SM 2540C	705483		
50330313001	**MW-14**	SM 4500-H+B	705572		
50330313002	**DUP-2**	SM 4500-H+B	705572		
50330313003	**Field Blank 2**	SM 4500-H+B	705572		
50330313004	**MW-15**	SM 4500-H+B	705572		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

WO# : 50330313

50330313

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 P2R3	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/27

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	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-14					11/6	1520		5	X		X							X	X	X	X		001
2	DUP-2					11/6	1520		5	X		X							X	X	X	X		002
3	Field Blank 2					11/6	1520		5	X		X							X	X	X	X		003
4	MW-15					11/6	1645		5	X		X							X	X	X	X		004 005
5	MS-2					11/6	1645		5	X		X							X	X	X	X		006
6	MSD-2					11/6	1645		5	X		X							X	X	X	X		
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li	Chris Burton	11-7-22	0800		11-7-22	0800				
6020: Be,Co,Cu,Zn,As,Se		11-7-22	1000		11/7/22	1000	0.8 / 1.7	y	N	y

SAMPLER NAME AND SIGNATURE	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:				
SIGNATURE of SAMPLER: DATE Signed:				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: JC 11/7/22 1330

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

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

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

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

4. **Cooler Temperature(s):** (Initial/Corrected) 1.1/0.8 | 2.0/1.7 | | | RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ JC 11/7/22

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):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

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

			VIALS						AMBER GLASS							PLASTIC									OTHER							
		MeOH (only)																											Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
		DI																													
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																2		2	1									WT	✓			
2																1		1	1									1	1			
3																1		1	1									1	1			
4																6		6	3									1	1			
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P3R2
Pace Project No.: 50330414

Dear Mr. Breting:

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R2
Pace Project No.: 50330414

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330414001	**MW-1**	Water	11/07/22 12:20	11/08/22 11:00
50330414002	**MW-10**	Water	11/07/22 14:15	11/08/22 11:00
50330414003	**MW-11**	Water	11/07/22 16:10	11/08/22 11:00
50330414004	**MW-12**	Water	11/07/22 17:05	11/08/22 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330414001	**MW-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50330414002	**MW-10**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50330414003	**MW-11**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50330414004	**MW-12**	EPA 9056	RMR	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330414001	**MW-1**					
EPA 9056	Chloride	3.6	mg/L	0.25	11/13/22 04:19	
EPA 9056	Fluoride	0.10	mg/L	0.10	11/13/22 04:19	
EPA 9056	Sulfate	208	mg/L	2.5	11/13/22 04:35	
EPA 6010	Magnesium	38100	ug/L	1000	11/19/22 03:54	
EPA 6010	Potassium	1050	ug/L	1000	11/19/22 03:54	
EPA 6010	Silica	19100	ug/L	450	11/19/22 03:54	N2
EPA 6010	Sodium	3230	ug/L	1000	11/19/22 03:54	
SM 2320B	Alkalinity, Total as CaCO3	280	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	280	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	581	mg/L	10.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/10/22 16:23	H3
EPA 353.2	Nitrogen, Nitrate	2.7	mg/L	0.10	11/08/22 21:49	
50330414002	**MW-10**					
EPA 9056	Chloride	110	mg/L	25.0	11/13/22 05:58	
EPA 9056	Fluoride	0.48	mg/L	0.10	11/13/22 05:25	
EPA 9056	Sulfate	1160	mg/L	25.0	11/13/22 05:58	
EPA 6010	Aluminum	748	ug/L	200	11/19/22 03:57	
EPA 6010	Iron	32400	ug/L	100	11/19/22 03:57	
EPA 6010	Magnesium	117000	ug/L	1000	11/19/22 03:57	
EPA 6010	Manganese	2610	ug/L	10.0	11/19/22 03:57	
EPA 6010	Potassium	37900	ug/L	1000	11/19/22 03:57	
EPA 6010	Silica	27800	ug/L	450	11/19/22 03:57	N2
EPA 6010	Sodium	76900	ug/L	1000	11/19/22 03:57	
EPA 6010	Iron, Dissolved	25700	ug/L	100	11/19/22 02:14	
EPA 6010	Manganese, Dissolved	2610	ug/L	10.0	11/19/22 02:14	
EPA 6010	Molybdenum, Dissolved	13.4	ug/L	10.0	11/19/22 02:14	
SM 2320B	Alkalinity, Total as CaCO3	660	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	660	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	2590	mg/L	40.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/10/22 16:24	H3
HACH 8146	Iron, Ferrous	7.2	mg/L	1.0	11/09/22 20:06	H3,N2
EPA 365.1	Phosphate as P04	1.5	mg/L	0.15	11/15/22 15:02	
SM 5310C	Total Organic Carbon	8.7	mg/L	1.0	11/21/22 12:15	
SM 5310C	Dissolved Organic Carbon	8.9	mg/L	1.0	11/26/22 00:39	
50330414003	**MW-11**					
EPA 9056	Chloride	3.2	mg/L	0.25	11/13/22 06:14	
EPA 9056	Fluoride	0.16	mg/L	0.10	11/13/22 06:14	
EPA 9056	Sulfate	429	mg/L	25.0	11/13/22 06:47	
EPA 6010	Aluminum	2260	ug/L	200	11/19/22 03:59	
EPA 6010	Iron	9370	ug/L	100	11/19/22 03:59	
EPA 6010	Magnesium	47300	ug/L	1000	11/19/22 03:59	
EPA 6010	Manganese	22.4	ug/L	10.0	11/19/22 03:59	
EPA 6010	Potassium	1200	ug/L	1000	11/19/22 03:59	
EPA 6010	Silica	23300	ug/L	450	11/19/22 03:59	N2
EPA 6010	Sodium	2990	ug/L	1000	11/19/22 03:59	
EPA 6010	Iron, Dissolved	488	ug/L	100	11/19/22 02:16	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330414003	**MW-11**					
SM 2320B	Alkalinity, Total as CaCO3	157	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	157	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	865	mg/L	10.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/11/22 13:51	H3
EPA 353.2	Nitrogen, Nitrate	2.0	mg/L	0.10	11/08/22 21:53	
EPA 365.1	Phosphate as P04	0.66	mg/L	0.15	11/15/22 15:02	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/26/22 00:59	
50330414004	**MW-12**					
EPA 9056	Chloride	8.2	mg/L	0.25	11/13/22 07:03	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/13/22 07:03	
EPA 9056	Sulfate	13.4	mg/L	0.25	11/13/22 07:03	
EPA 6010	Aluminum	2050	ug/L	200	11/19/22 04:01	
EPA 6010	Iron	1980	ug/L	100	11/19/22 04:01	
EPA 6010	Magnesium	19700	ug/L	1000	11/19/22 04:01	
EPA 6010	Manganese	66.1	ug/L	10.0	11/19/22 04:01	
EPA 6010	Potassium	1200	ug/L	1000	11/19/22 04:01	
EPA 6010	Silica	23900	ug/L	450	11/19/22 04:01	N2
EPA 6010	Sodium	3120	ug/L	1000	11/19/22 04:01	
SM 2320B	Alkalinity, Total as CaCO3	156	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	156	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	242	mg/L	10.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/11/22 13:52	H3
EPA 353.2	Nitrogen, Nitrate	8.8	mg/L	0.40	11/08/22 22:34	

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-1 **Lab ID: 50330414001** Collected: 11/07/22 12:20 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**3.6**	mg/L	0.25	0.067	1		11/13/22 04:19	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	0.017	1		11/13/22 04:19	16984-48-8	
Sulfate	**208**	mg/L	2.5	0.85	10		11/13/22 04:35	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:32	11/19/22 03:54	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/17/22 08:32	11/19/22 03:54	7439-89-6	
Magnesium	**38100**	ug/L	1000	71.8	1	11/17/22 08:32	11/19/22 03:54	7439-95-4	
Manganese	ND	ug/L	10.0	2.5	1	11/17/22 08:32	11/19/22 03:54	7439-96-5	
Potassium	**1050**	ug/L	1000	281	1	11/17/22 08:32	11/19/22 03:54	7440-09-7	
Silica	**19100**	ug/L	450		1	11/17/22 08:32	11/19/22 03:54	7631-86-9	N2
Sodium	**3230**	ug/L	1000	214	1	11/17/22 08:32	11/19/22 03:54	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:11	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:11	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:11	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**280**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**280**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**581**	mg/L	10.0	10.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/10/22 16:23		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:04	15438-31-0	H3,N2

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-1 **Lab ID: 50330414001** Collected: 11/07/22 12:20 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**2.7**	mg/L	0.10	0.011	1		11/08/22 21:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 21:49	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:01		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 11:55	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.14	1		11/26/22 00:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-10 **Lab ID: 50330414002** Collected: 11/07/22 14:15 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**110**	mg/L	25.0	6.7	100		11/13/22 05:58	16887-00-6	
Fluoride	**0.48**	mg/L	0.10	0.017	1		11/13/22 05:25	16984-48-8	
Sulfate	**1160**	mg/L	25.0	8.5	100		11/13/22 05:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**748**	ug/L	200	55.4	1	11/17/22 08:32	11/19/22 03:57	7429-90-5	
Iron	**32400**	ug/L	100	48.8	1	11/17/22 08:32	11/19/22 03:57	7439-89-6	
Magnesium	**117000**	ug/L	1000	71.8	1	11/17/22 08:32	11/19/22 03:57	7439-95-4	
Manganese	**2610**	ug/L	10.0	2.5	1	11/17/22 08:32	11/19/22 03:57	7439-96-5	
Potassium	**37900**	ug/L	1000	281	1	11/17/22 08:32	11/19/22 03:57	7440-09-7	
Silica	**27800**	ug/L	450		1	11/17/22 08:32	11/19/22 03:57	7631-86-9	N2
Sodium	**76900**	ug/L	1000	214	1	11/17/22 08:32	11/19/22 03:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**25700**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:14	7439-89-6	
Manganese, Dissolved	**2610**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:14	7439-96-5	
Molybdenum, Dissolved	**13.4**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:14	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**660**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**660**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2590**	mg/L	40.0	40.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		11/10/22 16:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**7.2**	mg/L	1.0	0.48	5		11/09/22 20:06	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-10 **Lab ID: 50330414002** Collected: 11/07/22 14:15 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 21:51	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 21:51	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.5**	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**8.7**	mg/L	1.0	0.14	1		11/21/22 12:15	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**8.9**	mg/L	1.0	0.14	1		11/26/22 00:39		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-11 **Lab ID: 50330414003** Collected: 11/07/22 16:10 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**3.2**	mg/L	0.25	0.067	1		11/13/22 06:14	16887-00-6	
Fluoride	**0.16**	mg/L	0.10	0.017	1		11/13/22 06:14	16984-48-8	
Sulfate	**429**	mg/L	25.0	8.5	100		11/13/22 06:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	**2260**	ug/L	200	55.4	1	11/17/22 08:32	11/19/22 03:59	7429-90-5	
Iron	**9370**	ug/L	100	48.8	1	11/17/22 08:32	11/19/22 03:59	7439-89-6	
Magnesium	**47300**	ug/L	1000	71.8	1	11/17/22 08:32	11/19/22 03:59	7439-95-4	
Manganese	**22.4**	ug/L	10.0	2.5	1	11/17/22 08:32	11/19/22 03:59	7439-96-5	
Potassium	**1200**	ug/L	1000	281	1	11/17/22 08:32	11/19/22 03:59	7440-09-7	
Silica	**23300**	ug/L	450		1	11/17/22 08:32	11/19/22 03:59	7631-86-9	N2
Sodium	**2990**	ug/L	1000	214	1	11/17/22 08:32	11/19/22 03:59	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	**488**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:16	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:16	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:16	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**157**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**157**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**865**	mg/L	10.0	10.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		11/11/22 13:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:07	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-11 **Lab ID: 50330414003** Collected: 11/07/22 16:10 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**2.0**	mg/L	0.10	0.011	1		11/08/22 21:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 21:53	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.66**	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	4.0	0.57	4		11/21/22 16:27	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.14	1		11/26/22 00:59		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-12 **Lab ID: 50330414004** Collected: 11/07/22 17:05 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**8.2**	mg/L	0.25	0.067	1		11/13/22 07:03	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		11/13/22 07:03	16984-48-8	
Sulfate	**13.4**	mg/L	0.25	0.085	1		11/13/22 07:03	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**2050**	ug/L	200	55.4	1	11/17/22 08:32	11/19/22 04:01	7429-90-5	
Iron	**1980**	ug/L	100	48.8	1	11/17/22 08:32	11/19/22 04:01	7439-89-6	
Magnesium	**19700**	ug/L	1000	71.8	1	11/17/22 08:32	11/19/22 04:01	7439-95-4	
Manganese	**66.1**	ug/L	10.0	2.5	1	11/17/22 08:32	11/19/22 04:01	7439-96-5	
Potassium	**1200**	ug/L	1000	281	1	11/17/22 08:32	11/19/22 04:01	7440-09-7	
Silica	**23900**	ug/L	450		1	11/17/22 08:32	11/19/22 04:01	7631-86-9	N2
Sodium	**3120**	ug/L	1000	214	1	11/17/22 08:32	11/19/22 04:01	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:18	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:18	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:18	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**156**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**156**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**242**	mg/L	10.0	10.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		11/11/22 13:52		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:07	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330414

Sample: MW-12 **Lab ID: 50330414004** Collected: 11/07/22 17:05 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**8.8**	mg/L	0.40	0.044	4		11/08/22 22:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.40	0.016	4		11/08/22 22:34	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:03		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 16:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.14	1		11/26/22 02:10		

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705260
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3241981 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:29	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:29	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:29	

LABORATORY CONTROL SAMPLE: 3241982

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	0.46	92	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241983 3241984

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	74.5	12.5	12.5	86.4	83.8	95	74	80-120	3	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.56	0.57	97	99	80-120	1	15	
Sulfate	mg/L	688	250	250	955	934	107	98	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705376
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3242492 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/19/22 02:43	
Iron	ug/L	ND	100	48.8	11/19/22 02:43	
Magnesium	ug/L	ND	1000	71.8	11/19/22 02:43	
Manganese	ug/L	ND	10.0	2.5	11/19/22 02:43	
Potassium	ug/L	ND	1000	281	11/19/22 02:43	
Silica	ug/L	ND	450		11/19/22 02:43	N2
Sodium	ug/L	ND	1000	214	11/19/22 02:43	

LABORATORY CONTROL SAMPLE: 3242493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Iron	ug/L	10000	9940	99	80-120	
Magnesium	ug/L	10000	9880	99	80-120	
Manganese	ug/L	1000	994	99	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242494 3242495

Parameter	Units	50330363001 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	10300	104	103	75-125	1	20	
Iron	ug/L	47700	10000	10000	58600	57500	109	98	75-125	2	20	
Magnesium	ug/L	57500	10000	10000	69400	67900	118	103	75-125	2	20	
Manganese	ug/L	274	1000	1000	1270	1250	99	97	75-125	2	20	
Potassium	ug/L	4070	10000	10000	15200	15100	111	110	75-125	1	20	
Silica	ug/L	46600	10700	10700	59700	58700	122	114	75-125	2	20	N2
Sodium	ug/L	22800	10000	10000	33600	33200	109	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 707123
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3250657 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/19/22 01:18	
Manganese, Dissolved	ug/L	ND	10.0	2.5	11/19/22 01:18	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	11/19/22 01:18	

LABORATORY CONTROL SAMPLE: 3250658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Manganese, Dissolved	ug/L	2000	1920	96	80-120	
Molybdenum, Dissolved	ug/L	2000	2050	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250659 3250660

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1960	10000	10000	11700	11500	97	96	75-125	1	20	
Manganese, Dissolved	ug/L	403	1000	1000	1390	1360	99	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	84.8	1000	1000	1150	1130	106	105	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250661 3250662

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6800	10000	10000	16400	16600	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	2250	1000	1000	3250	3290	101	105	75-125	1	20	
Molybdenum, Dissolved	ug/L	607	1000	1000	1680	1710	107	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250663 3250664

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	9430	9540	94	95	75-125	1	20	
Manganese, Dissolved	ug/L	1360	1000	1000	2250	2290	89	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	300	1000	1000	1320	1340	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705229 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3241851 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	

LABORATORY CONTROL SAMPLE: 3241852

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: 3241853

Parameter	Units	50330193010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	481	489	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	481	489	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3241854

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	130	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	130	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705716 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705633
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: 50330414001, 50330414002

SAMPLE DUPLICATE: 3243858

Parameter	Units	50330306004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	2	H3

SAMPLE DUPLICATE: 3243859

Parameter	Units	50330308002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3243860

Parameter	Units	50330414002 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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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705843
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: 50330414003, 50330414004

SAMPLE DUPLICATE: 3244758

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	2	2	H3

SAMPLE DUPLICATE: 3244759

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3244760

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705987
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: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3245794 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/12/22 11:05	

LABORATORY CONTROL SAMPLE: 3245795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245796 3245797

Parameter	Units	50330411003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.20	0.5	0.5	0.64	0.65	101	103	90-110	2	20	

MATRIX SPIKE SAMPLE: 3245798

Parameter	Units	50330414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.49	98	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705425 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3242745 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 19:58	H3,N2

LABORATORY CONTROL SAMPLE: 3242746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242747 3242748

Parameter	Units	50330306004 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	97	100	90-110	4	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242749 3242750

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	109	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705110
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: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3241322 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/08/22 22:17	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/08/22 22:17	

LABORATORY CONTROL SAMPLE: 3241323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.97	97	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241324 3241325

Parameter	Units	50330364002 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	1.0	1.0	100	101	90-110	0	20	

MATRIX SPIKE SAMPLE: 3241326

Parameter	Units	50330414003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.0	1	3.0	101	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	101	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 705476 | 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: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3242974 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/15/22 14:56	

LABORATORY CONTROL SAMPLE: 3242975

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242976 3242977

Parameter	Units	50330416002 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				3		

MATRIX SPIKE SAMPLE: 3242978

Parameter	Units	50330432001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	1.8		3.4			

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 707234
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002

METHOD BLANK: 3251085 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 03:30	

LABORATORY CONTROL SAMPLE: 3251086

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: 3251087 3251088

Parameter	Units	50330306004 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	11.3	11.4	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251089 3251090

Parameter	Units	50330308002 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	2.5	10	10	12.3	12.4	98	99	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 707235
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414003, 50330414004

METHOD BLANK: 3251105 Matrix: Water
Associated Lab Samples: 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 15:19	

LABORATORY CONTROL SAMPLE: 3251106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251107 3251108

Parameter	Units	50330416002 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	1.0	10	10	10.9	11.0	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252295 3252296

Parameter	Units	50330363001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	5.6	40	40	45.2	45.1	99	99	80-120	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330414

QC Batch: 707803
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

METHOD BLANK: 3253653 Matrix: Water
Associated Lab Samples: 50330414001, 50330414002, 50330414003, 50330414004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/25/22 17:17	

LABORATORY CONTROL SAMPLE: 3253654

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: 3253655 3253656

Parameter	Units	50330360003 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	3.2	10	10	12.8	12.8	96	95	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3253661 3253662

Parameter	Units	50330416002 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	11.2	11.0	97	95	80-120	1	20	

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QUALIFIERS

Project: Petersburg P3R2
Pace Project No.: 50330414

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330414001	**MW-1**	EPA 9056	705260		
50330414002	**MW-10**	EPA 9056	705260		
50330414003	**MW-11**	EPA 9056	705260		
50330414004	**MW-12**	EPA 9056	705260		
50330414001	**MW-1**	EPA 3010	705376	EPA 6010	707312
50330414002	**MW-10**	EPA 3010	705376	EPA 6010	707312
50330414003	**MW-11**	EPA 3010	705376	EPA 6010	707312
50330414004	**MW-12**	EPA 3010	705376	EPA 6010	707312
50330414001	**MW-1**	EPA 3010	707123	EPA 6010	707306
50330414002	**MW-10**	EPA 3010	707123	EPA 6010	707306
50330414003	**MW-11**	EPA 3010	707123	EPA 6010	707306
50330414004	**MW-12**	EPA 3010	707123	EPA 6010	707306
50330414001	**MW-1**	SM 2320B	705229		
50330414002	**MW-10**	SM 2320B	705229		
50330414003	**MW-11**	SM 2320B	705229		
50330414004	**MW-12**	SM 2320B	705229		
50330414001	**MW-1**	SM 2540C	705716		
50330414002	**MW-10**	SM 2540C	705716		
50330414003	**MW-11**	SM 2540C	705716		
50330414004	**MW-12**	SM 2540C	705716		
50330414001	**MW-1**	SM 4500-H+B	705633		
50330414002	**MW-10**	SM 4500-H+B	705633		
50330414003	**MW-11**	SM 4500-H+B	705843		
50330414004	**MW-12**	SM 4500-H+B	705843		
50330414001	**MW-1**	SM 4500-S2-D	705987		
50330414002	**MW-10**	SM 4500-S2-D	705987		
50330414003	**MW-11**	SM 4500-S2-D	705987		
50330414004	**MW-12**	SM 4500-S2-D	705987		
50330414001	**MW-1**	HACH 8146	705425		
50330414002	**MW-10**	HACH 8146	705425		
50330414003	**MW-11**	HACH 8146	705425		
50330414004	**MW-12**	HACH 8146	705425		
50330414001	**MW-1**	EPA 353.2	705110		
50330414002	**MW-10**	EPA 353.2	705110		
50330414003	**MW-11**	EPA 353.2	705110		
50330414004	**MW-12**	EPA 353.2	705110		
50330414001	**MW-1**	EPA 365.1	705476	EPA 365.1	706557
50330414002	**MW-10**	EPA 365.1	705476	EPA 365.1	706557
50330414003	**MW-11**	EPA 365.1	705476	EPA 365.1	706557
50330414004	**MW-12**	EPA 365.1	705476	EPA 365.1	706557
50330414001	**MW-1**	SM 5310C	707234		
50330414002	**MW-10**	SM 5310C	707234		
50330414003	**MW-11**	SM 5310C	707235		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R2
Pace Project No.: 50330414

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330414004	**MW-12**	SM 5310C	707235		
50330414001	**MW-1**	SM 5310C	707803		
50330414002	**MW-10**	SM 5310C	707803		
50330414003	**MW-11**	SM 5310C	707803		
50330414004	**MW-12**	SM 5310C	707803		

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

WO# : 50330414

50330414

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 P3R2	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

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 + 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					11-7-22	1220		9	X	X	X		X					X	X	X	X	X	X	X	X	X		001
2	MW-10					11-7-22	1415		9	X	X	X		X					X	X	X	X	X	X	X	X	X		002
3	MW-11					11-7-22	1610		9	X	X	X		X					X	X	X	X	X	X	X	X	X		003
4	MW-12					11-7-22	1705		9	X	X	X		X					X	X	X	X	X	X	X	X	X		004
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (k, Na, Mg, Mn)	Chris Bulo	11-8-22	0819	[signature]	11/8/22	0819	
	[signature]	11/8/22	1100	[signature]	11/8/22	1100	SEE SCAR
** 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)

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: [illegible] 11/8/22 1130

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

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

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

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

4. Cooler Temperature(s): 1.8/1.8 | 1.7/1.7 | 1.2/1.2 | 0.8/0.8

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. Ice Type: ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 13:00		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only)	SBS	DI	VIALS					AMBER GLASS							PLASTIC									OTHER							
COC Line Item	WGFU	R	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1													1	1				1	2	1	1	1		1					✓	✓	✓		✓
2													↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	↓		↓
3													↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	↓		↓
4													↓	↓				↓	↓	↓	↓	↓		↓					↓	↓	↓		↓
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P3R3
Pace Project No.: 50330415

Dear Mr. Breting:

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R3
Pace Project No.: 50330415

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Petersburg P3R3
Pace Project No.: 50330415

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330415001	**MW-16**	Water	11/07/22 09:55	11/08/22 11:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R3
Pace Project No.: 50330415

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330415001	**MW-16**	EPA 9056	ADM	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R3
Pace Project No.: 50330415

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330415001	**MW-16**					
EPA 9056	Chloride	63.0	mg/L	2.5	11/14/22 22:04	
EPA 9056	Sulfate	1260	mg/L	25.0	11/14/22 22:20	
EPA 6010	Iron	6120	ug/L	100	11/19/22 04:06	
EPA 6010	Magnesium	31000	ug/L	1000	11/19/22 04:06	
EPA 6010	Manganese	3740	ug/L	10.0	11/19/22 04:06	
EPA 6010	Potassium	206000	ug/L	5000	11/19/22 04:10	
EPA 6010	Silica	11200	ug/L	450	11/19/22 04:06	N2
EPA 6010	Sodium	88500	ug/L	1000	11/19/22 04:06	
EPA 6010	Iron, Dissolved	5450	ug/L	100	11/19/22 02:21	
EPA 6010	Manganese, Dissolved	3720	ug/L	10.0	11/19/22 02:21	
EPA 6010	Molybdenum, Dissolved	410	ug/L	10.0	11/19/22 02:21	
SM 2320B	Alkalinity, Total as CaCO3	282	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	282	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	2210	mg/L	40.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/11/22 13:53	H3
HACH 8146	Iron, Ferrous	2.1	mg/L	0.33	11/09/22 20:02	H3,N2
EPA 365.1	Phosphate as P04	1.8	mg/L	0.15	11/15/22 15:04	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	11/21/22 17:12	
SM 5310C	Dissolved Organic Carbon	3.4	mg/L	1.0	11/26/22 02:29	

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7726 Moller Road
Indianapolis, IN 46268
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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330415

Sample: MW-16 **Lab ID: 50330415001** Collected: 11/07/22 09:55 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**63.0**	mg/L	2.5	0.67	10		11/14/22 22:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/18/22 10:36	16984-48-8	
Sulfate	**1260**	mg/L	25.0	8.5	100		11/14/22 22:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:32	11/19/22 04:06	7429-90-5	
Iron	**6120**	ug/L	100	48.8	1	11/17/22 08:32	11/19/22 04:06	7439-89-6	
Magnesium	**31000**	ug/L	1000	71.8	1	11/17/22 08:32	11/19/22 04:06	7439-95-4	
Manganese	**3740**	ug/L	10.0	2.5	1	11/17/22 08:32	11/19/22 04:06	7439-96-5	
Potassium	**206000**	ug/L	5000	1400	5	11/17/22 08:32	11/19/22 04:10	7440-09-7	
Silica	**11200**	ug/L	450		1	11/17/22 08:32	11/19/22 04:06	7631-86-9	N2
Sodium	**88500**	ug/L	1000	214	1	11/17/22 08:32	11/19/22 04:06	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**5450**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:21	7439-89-6	
Manganese, Dissolved	**3720**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:21	7439-96-5	
Molybdenum, Dissolved	**410**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:21	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**282**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**282**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2210**	mg/L	40.0	40.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		11/11/22 13:53		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:05	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**2.1**	mg/L	0.33	0.16	1.67		11/09/22 20:02	15438-31-0	H3,N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50330415

Sample: MW-16 **Lab ID: 50330415001** Collected: 11/07/22 09:55 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 20:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 20:33	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.8**	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:04		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.9**	mg/L	1.0	0.14	1		11/21/22 17:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**3.4**	mg/L	1.0	0.14	1		11/26/22 02:29		

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705798
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330415001

METHOD BLANK: 3244470 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/18/22 07:46	
Fluoride	mg/L	ND	0.10	0.017	11/18/22 07:46	
Sulfate	mg/L	ND	0.25	0.085	11/18/22 07:46	

LABORATORY CONTROL SAMPLE: 3244471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.50	99	80-120	
Sulfate	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244472 3244473

Parameter	Units	50330313004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	71.9	12.5	12.5	85.9	85.8	112	112	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.59	0.60	100	102	80-120	1	15	
Sulfate	mg/L	677	250	250	913	898	94	88	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705376
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330415001

METHOD BLANK: 3242492 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/19/22 02:43	
Iron	ug/L	ND	100	48.8	11/19/22 02:43	
Magnesium	ug/L	ND	1000	71.8	11/19/22 02:43	
Manganese	ug/L	ND	10.0	2.5	11/19/22 02:43	
Potassium	ug/L	ND	1000	281	11/19/22 02:43	
Silica	ug/L	ND	450		11/19/22 02:43	N2
Sodium	ug/L	ND	1000	214	11/19/22 02:43	

LABORATORY CONTROL SAMPLE: 3242493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	80-120	
Iron	ug/L	10000	9940	99	80-120	
Magnesium	ug/L	10000	9880	99	80-120	
Manganese	ug/L	1000	994	99	80-120	
Potassium	ug/L	10000	10400	104	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242494 3242495

Parameter	Units	50330363001 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	10300	104	103	75-125	1	20	
Iron	ug/L	47700	10000	10000	58600	57500	109	98	75-125	2	20	
Magnesium	ug/L	57500	10000	10000	69400	67900	118	103	75-125	2	20	
Manganese	ug/L	274	1000	1000	1270	1250	99	97	75-125	2	20	
Potassium	ug/L	4070	10000	10000	15200	15100	111	110	75-125	1	20	
Silica	ug/L	46600	10700	10700	59700	58700	122	114	75-125	2	20	N2
Sodium	ug/L	22800	10000	10000	33600	33200	109	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 707123
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3250657 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/19/22 01:18	
Manganese, Dissolved	ug/L	ND	10.0	2.5	11/19/22 01:18	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	11/19/22 01:18	

LABORATORY CONTROL SAMPLE: 3250658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Manganese, Dissolved	ug/L	2000	1920	96	80-120	
Molybdenum, Dissolved	ug/L	2000	2050	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250659 3250660

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1960	10000	10000	11700	11500	97	96	75-125	1	20	
Manganese, Dissolved	ug/L	403	1000	1000	1390	1360	99	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	84.8	1000	1000	1150	1130	106	105	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250661 3250662

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6800	10000	10000	16400	16600	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	2250	1000	1000	3250	3290	101	105	75-125	1	20	
Molybdenum, Dissolved	ug/L	607	1000	1000	1680	1710	107	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250663 3250664

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	9430	9540	94	95	75-125	1	20	
Manganese, Dissolved	ug/L	1360	1000	1000	2250	2290	89	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	300	1000	1000	1320	1340	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705229
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3241851 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	

LABORATORY CONTROL SAMPLE: 3241852

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: 3241853

Parameter	Units	50330193010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	481	489	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	481	489	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3241854

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	130	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	130	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705716
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705843
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: 50330415001

SAMPLE DUPLICATE: 3244758

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	2	2	H3

SAMPLE DUPLICATE: 3244759

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3244760

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705987
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: 50330415001

METHOD BLANK: 3245794 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/12/22 11:05	

LABORATORY CONTROL SAMPLE: 3245795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245796 3245797

Parameter	Units	50330411003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.20	0.5	0.5	0.64	0.65	101	103	90-110	2	20	

MATRIX SPIKE SAMPLE: 3245798

Parameter	Units	50330414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.49	98	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705425
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3242745 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 19:58	H3,N2

LABORATORY CONTROL SAMPLE: 3242746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242747 3242748

Parameter	Units	50330306004 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	97	100	90-110	4	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242749 3242750

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	109	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705109
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: 50330415001

METHOD BLANK: 3241314 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/08/22 20:11	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/08/22 20:11	

LABORATORY CONTROL SAMPLE: 3241315

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: 3241316 3241317

Parameter	Units	50330416002 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	97	97	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	

MATRIX SPIKE SAMPLE: 3241318

Parameter	Units	50330354004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.89	89	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.96	96	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 705476
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: 50330415001

METHOD BLANK: 3242974 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/15/22 14:56	

LABORATORY CONTROL SAMPLE: 3242975

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242976 3242977

Parameter	Units	50330416002 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				3		

MATRIX SPIKE SAMPLE: 3242978

Parameter	Units	50330432001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	1.8		3.4			

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 707235
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3251105 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 15:19	

LABORATORY CONTROL SAMPLE: 3251106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251107 3251108

Parameter	Units	50330416002 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	1.0	10	10	10.9	11.0	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252295 3252296

Parameter	Units	50330363001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	5.6	40	40	45.2	45.1	99	99	80-120	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50330415

QC Batch: 707803
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330415001

METHOD BLANK: 3253653 Matrix: Water
Associated Lab Samples: 50330415001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/25/22 17:17	

LABORATORY CONTROL SAMPLE: 3253654

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: 3253655 3253656

Parameter	Units	50330360003 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	3.2	10	10	12.8	12.8	96	95	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3253661 3253662

Parameter	Units	50330416002 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	11.2	11.0	97	95	80-120	1	20	

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QUALIFIERS

Project: Petersburg P3R3
Pace Project No.: 50330415

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R3
Pace Project No.: 50330415

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330415001	**MW-16**	EPA 9056	705798		
50330415001	**MW-16**	EPA 3010	705376	EPA 6010	707312
50330415001	**MW-16**	EPA 3010	707123	EPA 6010	707306
50330415001	**MW-16**	SM 2320B	705229		
50330415001	**MW-16**	SM 2540C	705716		
50330415001	**MW-16**	SM 4500-H+B	705843		
50330415001	**MW-16**	SM 4500-S2-D	705987		
50330415001	**MW-16**	HACH 8146	705425		
50330415001	**MW-16**	EPA 353.2	705109		
50330415001	**MW-16**	EPA 365.1	705476	EPA 365.1	706557
50330415001	**MW-16**	SM 5310C	707235		
50330415001	**MW-16**	SM 5310C	707803		

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CHAIN-OF-CUSTODY / Analytical Request F

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50330415

50330415

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 Seda
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 P3R3	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)
																		Y				Y					
1	MW-16					11-7	0955		9	X	X	X		X					X	XX	X	X	X	X	X	X	
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (k, Na, Mg, Mn)		11-8-22	0819		11/8/22	0819	
		11/8/22	1100		11/8/22	1100	SGC SCR
** 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)

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: [illegible] 11/8/22 1130

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

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

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

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

4. **Cooler Temperature(s):** 1.8/1.8 | 1.7/1.7 | 1.2/1.2 | 0.8/0.8

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 13:00		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

			VIALS					AMBER GLASS							PLASTIC									OTHER								
		MeOH (only)																														
		SBS																														
		DI																														
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/ZnAc >9
1												1	1				1	2	1	1	1		1					WT	✓	✓		✓
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P3R1
Pace Project No.: 50330416

Dear Mr. Breting:

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R1
Pace Project No.: 50330416

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330416001	**MW-2R**	Water	11/07/22 10:50	11/08/22 11:00
50330416002	**MW-3**	Water	11/07/22 13:00	11/08/22 11:00
50330416003	**Field Blank**	Water	11/07/22 13:00	11/08/22 11:00
50330416004	**DUP-1**	Water	11/07/22 13:00	11/08/22 11:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330416001	**MW-2R**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50330416002	**MW-3**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50330416003	**Field Blank**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50330416004	**DUP-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	7	PASI-I
		EPA 6010	JPK	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	MMS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330416001	**MW-2R**					
EPA 9056	Chloride	72.4	mg/L	25.0	11/14/22 14:20	
EPA 9056	Sulfate	1540	mg/L	25.0	11/14/22 14:20	
EPA 6010	Iron	6740	ug/L	100	11/18/22 23:52	
EPA 6010	Magnesium	50000	ug/L	1000	11/18/22 23:52	
EPA 6010	Manganese	4800	ug/L	10.0	11/18/22 23:52	
EPA 6010	Potassium	69400	ug/L	1000	11/18/22 23:52	
EPA 6010	Silica	13500	ug/L	450	11/18/22 23:52	N2
EPA 6010	Sodium	81600	ug/L	1000	11/18/22 23:52	
EPA 6010	Iron, Dissolved	8270	ug/L	100	11/19/22 02:23	
EPA 6010	Manganese, Dissolved	5980	ug/L	10.0	11/19/22 02:23	
EPA 6010	Molybdenum, Dissolved	11.0	ug/L	10.0	11/19/22 02:23	
SM 2320B	Alkalinity, Total as CaCO3	159	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	159	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	2540	mg/L	40.0	11/11/22 08:15	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	11/11/22 13:54	H3
HACH 8146	Iron, Ferrous	6.5	mg/L	1.0	11/09/22 20:02	H3,N2
EPA 365.1	Phosphate as P04	0.53	mg/L	0.15	11/15/22 15:05	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	11/21/22 17:31	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	11/26/22 02:55	
50330416002	**MW-3**					
EPA 9056	Chloride	86.7	mg/L	2.5	11/14/22 14:53	
EPA 9056	Sulfate	966	mg/L	25.0	11/14/22 15:10	
EPA 6010	Magnesium	12300	ug/L	1000	11/18/22 23:55	
EPA 6010	Manganese	1290	ug/L	10.0	11/18/22 23:55	
EPA 6010	Potassium	236000	ug/L	5000	11/19/22 00:39	
EPA 6010	Silica	11500	ug/L	450	11/18/22 23:55	N2
EPA 6010	Sodium	97000	ug/L	1000	11/18/22 23:55	
EPA 6010	Manganese, Dissolved	1360	ug/L	10.0	11/19/22 02:25	
EPA 6010	Molybdenum, Dissolved	300	ug/L	10.0	11/19/22 02:25	
SM 2320B	Alkalinity, Total as CaCO3	130	mg/L	10.0	11/09/22 17:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	130	mg/L	10.0	11/09/22 17:16	
SM 2540C	Total Dissolved Solids	1800	mg/L	40.0	11/11/22 08:16	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	11/11/22 13:57	H3
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	11/21/22 17:51	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	11/26/22 03:15	
50330416003	**Field Blank**					
SM 4500-H+B	pH at 25 Degrees C	5.9	Std. Units	0.10	11/11/22 14:09	H3
50330416004	**DUP-1**					
EPA 9056	Chloride	73.3	mg/L	25.0	11/14/22 18:11	
EPA 9056	Sulfate	1010	mg/L	25.0	11/14/22 18:11	
EPA 6010	Magnesium	17900	ug/L	1000	11/18/22 23:30	
EPA 6010	Manganese	1400	ug/L	10.0	11/18/22 23:30	
EPA 6010	Potassium	208000	ug/L	5000	11/19/22 00:32	
EPA 6010	Silica	14300	ug/L	450	11/18/22 23:30	N2
EPA 6010	Sodium	98700	ug/L	1000	11/18/22 23:30	
EPA 6010	Manganese, Dissolved	1380	ug/L	10.0	11/19/22 02:36	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330416004	**DUP-1**					
EPA 6010	Molybdenum, Dissolved	325	ug/L	10.0	11/19/22 02:36	
SM 2320B	Alkalinity, Total as CaCO3	154	mg/L	10.0	11/10/22 11:48	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	154	mg/L	10.0	11/10/22 11:48	
SM 2540C	Total Dissolved Solids	1810	mg/L	40.0	11/11/22 08:16	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/11/22 14:24	H3
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	11/21/22 20:02	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	11/26/22 04:53	

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: MW-2R **Lab ID: 50330416001** Collected: 11/07/22 10:50 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**72.4**	mg/L	25.0	6.7	100		11/14/22 14:20	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/14/22 14:04	16984-48-8	
Sulfate	**1540**	mg/L	25.0	8.5	100		11/14/22 14:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:42	11/18/22 23:52	7429-90-5	
Iron	**6740**	ug/L	100	48.8	1	11/17/22 08:42	11/18/22 23:52	7439-89-6	
Magnesium	**50000**	ug/L	1000	71.8	1	11/17/22 08:42	11/18/22 23:52	7439-95-4	
Manganese	**4800**	ug/L	10.0	2.5	1	11/17/22 08:42	11/18/22 23:52	7439-96-5	
Potassium	**69400**	ug/L	1000	281	1	11/17/22 08:42	11/18/22 23:52	7440-09-7	
Silica	**13500**	ug/L	450		1	11/17/22 08:42	11/18/22 23:52	7631-86-9	N2
Sodium	**81600**	ug/L	1000	214	1	11/17/22 08:42	11/18/22 23:52	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**8270**	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:23	7439-89-6	
Manganese, Dissolved	**5980**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:23	7439-96-5	
Molybdenum, Dissolved	**11.0**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:23	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**159**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**159**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2540**	mg/L	40.0	40.0	1		11/11/22 08:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		11/11/22 13:54		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:47	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**6.5**	mg/L	1.0	0.48	5		11/09/22 20:02	15438-31-0	H3,N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: MW-2R **Lab ID: 50330416001** Collected: 11/07/22 10:50 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 20:41	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 20:41	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.53**	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.14	1		11/21/22 17:31	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.7**	mg/L	1.0	0.14	1		11/26/22 02:55		

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: MW-3 **Lab ID: 50330416002** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**86.7**	mg/L	2.5	0.67	10		11/14/22 14:53	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/14/22 14:37	16984-48-8	
Sulfate	**966**	mg/L	25.0	8.5	100		11/14/22 15:10	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:42	11/18/22 23:55	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/17/22 08:42	11/18/22 23:55	7439-89-6	
Magnesium	**12300**	ug/L	1000	71.8	1	11/17/22 08:42	11/18/22 23:55	7439-95-4	
Manganese	**1290**	ug/L	10.0	2.5	1	11/17/22 08:42	11/18/22 23:55	7439-96-5	
Potassium	**236000**	ug/L	5000	1400	5	11/17/22 08:42	11/19/22 00:39	7440-09-7	
Silica	**11500**	ug/L	450		1	11/17/22 08:42	11/18/22 23:55	7631-86-9	N2
Sodium	**97000**	ug/L	1000	214	1	11/17/22 08:42	11/18/22 23:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:25	7439-89-6	
Manganese, Dissolved	**1360**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:25	7439-96-5	
Molybdenum, Dissolved	**300**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:25	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**130**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Bicarbonate (CaCO3)	**130**	mg/L	10.0	10.0	1		11/09/22 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/09/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1800**	mg/L	40.0	40.0	1		11/11/22 08:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.6**	Std. Units	0.10	0.10	1		11/11/22 13:57		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:47	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:04	15438-31-0	H3,N2

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: MW-3 **Lab ID: 50330416002** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 20:42	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 20:42	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.0**	mg/L	1.0	0.14	1		11/21/22 17:51	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.14	1		11/26/22 03:15		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: Field Blank **Lab ID: 50330416003** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	0.067	1		11/14/22 17:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/14/22 17:38	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		11/14/22 17:38	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:42	11/18/22 23:28	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/17/22 08:42	11/18/22 23:28	7439-89-6	
Magnesium	ND	ug/L	1000	71.8	1	11/17/22 08:42	11/18/22 23:28	7439-95-4	
Manganese	ND	ug/L	10.0	2.5	1	11/17/22 08:42	11/18/22 23:28	7439-96-5	
Molybdenum	ND	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 23:28	7439-98-7	
Potassium	ND	ug/L	1000	281	1	11/17/22 08:42	11/18/22 23:28	7440-09-7	
Silica	ND	ug/L	450		1	11/17/22 08:42	11/18/22 23:28	7631-86-9	N2
Sodium	ND	ug/L	1000	214	1	11/17/22 08:42	11/18/22 23:28	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	10.0	10.0	1		11/10/22 11:48		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/10/22 11:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/10/22 11:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/11/22 08:16		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	0.10	1		11/11/22 14:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D								
	Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:47	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146								
	Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:05	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2								
	Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 20:48	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 20:48	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: Field Blank **Lab ID: 50330416003** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.15	1	11/10/22 10:30	11/15/22 15:08		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		11/21/22 19:43	7440-44-0	

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: DUP-1 **Lab ID: 50330416004** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**73.3**	mg/L	25.0	6.7	100		11/14/22 18:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/14/22 17:54	16984-48-8	
Sulfate	**1010**	mg/L	25.0	8.5	100		11/14/22 18:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/17/22 08:42	11/18/22 23:30	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/17/22 08:42	11/18/22 23:30	7439-89-6	
Magnesium	**17900**	ug/L	1000	71.8	1	11/17/22 08:42	11/18/22 23:30	7439-95-4	
Manganese	**1400**	ug/L	10.0	2.5	1	11/17/22 08:42	11/18/22 23:30	7439-96-5	
Potassium	**208000**	ug/L	5000	1400	5	11/17/22 08:42	11/19/22 00:32	7440-09-7	
Silica	**14300**	ug/L	450		1	11/17/22 08:42	11/18/22 23:30	7631-86-9	N2
Sodium	**98700**	ug/L	1000	214	1	11/17/22 08:42	11/18/22 23:30	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/18/22 10:07	11/19/22 02:36	7439-89-6	
Manganese, Dissolved	**1380**	ug/L	10.0	2.5	1	11/18/22 10:07	11/19/22 02:36	7439-96-5	
Molybdenum, Dissolved	**325**	ug/L	10.0	3.7	1	11/18/22 10:07	11/19/22 02:36	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**154**	mg/L	10.0	10.0	1		11/10/22 11:48		
Alkalinity,Bicarbonate (CaCO3)	**154**	mg/L	10.0	10.0	1		11/10/22 11:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/10/22 11:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1810**	mg/L	40.0	40.0	1		11/11/22 08:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		11/11/22 14:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:47	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 20:06	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330416

Sample: DUP-1 **Lab ID: 50330416004** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/08/22 20:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/08/22 20:50	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/10/22 10:30	11/15/22 15:08		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.1**	mg/L	1.0	0.14	1		11/21/22 20:02	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.14	1		11/26/22 04:53		

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705898
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3245152 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/14/22 12:08	
Fluoride	mg/L	ND	0.10	0.017	11/14/22 12:08	
Sulfate	mg/L	ND	0.25	0.085	11/14/22 12:08	

LABORATORY CONTROL SAMPLE: 3245153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	92	80-120	
Fluoride	mg/L	0.5	0.45	91	80-120	
Sulfate	mg/L	2.5	2.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245154 3245155

Parameter	Units	50330417002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	83.0	12.5	12.5	98.3	101	123	141	80-120	2	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.54	0.56	95	98	80-120	3	15	
Sulfate	mg/L	984	250	250	1210	1220	89	94	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245213 3245214

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	86.7	12.5	12.5	100	100	108	110	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.52	0.55	91	97	80-120	5	15	
Sulfate	mg/L	966	250	250	1200	1200	95	94	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705377
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3242496 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/18/22 23:25	
Iron	ug/L	ND	100	48.8	11/18/22 23:25	
Magnesium	ug/L	ND	1000	71.8	11/18/22 23:25	
Manganese	ug/L	ND	10.0	2.5	11/18/22 23:25	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 23:25	
Potassium	ug/L	ND	1000	281	11/18/22 23:25	
Silica	ug/L	ND	450		11/18/22 23:25	N2
Sodium	ug/L	ND	1000	214	11/18/22 23:25	

LABORATORY CONTROL SAMPLE: 3242497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9970	100	80-120	
Iron	ug/L	10000	9820	98	80-120	
Magnesium	ug/L	10000	9830	98	80-120	
Manganese	ug/L	1000	978	98	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10000	100	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	10000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242498 3242499

Parameter	Units	50330416002 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	10300	10700	103	107	75-125	4	20	
Iron	ug/L	ND	10000	10000	9390	9760	94	97	75-125	4	20	
Magnesium	ug/L	12300	10000	10000	23700	22100	114	98	75-125	7	20	
Manganese	ug/L	1290	1000	1000	2430	2300	114	101	75-125	6	20	
Molybdenum	ug/L	286	1000	1000	1360	1370	108	108	75-125	0	20	
Potassium	ug/L	236000	10000	10000	279000	248000	426	124	75-125	11	20	P6
Silica	ug/L	11500	10700	10700	23600	22500	114	103	75-125	5	20	N2
Sodium	ug/L	97000	10000	10000	122000	110000	248	128	75-125	10	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242500 3242501

Parameter	Units	50330417002 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	104	105	75-125	1	20	
Iron	ug/L	ND	10000	10000	9540	9550	95	95	75-125	0	20	
Magnesium	ug/L	15400	10000	10000	24600	24600	93	93	75-125	0	20	
Manganese	ug/L	1320	1000	1000	2270	2270	94	94	75-125	0	20	
Molybdenum	ug/L	308	1000	1000	1350	1360	104	105	75-125	1	20	
Potassium	ug/L	222000	10000	10000	230000	233000	72	102	75-125	1	20	P6
Silica	ug/L	13200	10700	10700	23600	23900	98	100	75-125	1	20	N2
Sodium	ug/L	98200	10000	10000	108000	108000	102	102	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242502 3242503

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10600	10600	106	106	75-125	0	20	
Iron	ug/L	ND	10000	10000	9550	9640	95	96	75-125	1	20	
Magnesium	ug/L	11300	10000	10000	20700	21100	94	98	75-125	2	20	
Manganese	ug/L	1360	1000	1000	2320	2350	96	99	75-125	2	20	
Molybdenum	ug/L	304	1000	1000	1350	1350	105	105	75-125	0	20	
Potassium	ug/L	241000	10000	10000	247000	247000	56	60	75-125	0	20	P6
Silica	ug/L	11000	10700	10700	21500	21700	99	101	75-125	1	20	N2
Sodium	ug/L	95400	10000	10000	106000	107000	102	114	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 707123
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416004

METHOD BLANK: 3250657 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/19/22 01:18	
Manganese, Dissolved	ug/L	ND	10.0	2.5	11/19/22 01:18	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	11/19/22 01:18	

LABORATORY CONTROL SAMPLE: 3250658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Manganese, Dissolved	ug/L	2000	1920	96	80-120	
Molybdenum, Dissolved	ug/L	2000	2050	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250659 3250660

Parameter	Units	50330306004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1960	10000	10000	11700	11500	97	96	75-125	1	20	
Manganese, Dissolved	ug/L	403	1000	1000	1390	1360	99	96	75-125	2	20	
Molybdenum, Dissolved	ug/L	84.8	1000	1000	1150	1130	106	105	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250661 3250662

Parameter	Units	50330308002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6800	10000	10000	16400	16600	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	2250	1000	1000	3250	3290	101	105	75-125	1	20	
Molybdenum, Dissolved	ug/L	607	1000	1000	1680	1710	107	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250663 3250664

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	9430	9540	94	95	75-125	1	20	
Manganese, Dissolved	ug/L	1360	1000	1000	2250	2290	89	93	75-125	2	20	
Molybdenum, Dissolved	ug/L	300	1000	1000	1320	1340	102	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705229
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002

METHOD BLANK: 3241851 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/09/22 17:16	

LABORATORY CONTROL SAMPLE: 3241852

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: 3241853

Parameter	Units	50330193010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	481	489	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	481	489	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3241854

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	130	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	130	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705232
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416003, 50330416004

METHOD BLANK: 3241860 Matrix: Water
Associated Lab Samples: 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/10/22 11:48	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 11:48	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 11:48	

LABORATORY CONTROL SAMPLE: 3241861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.7	95	90-110	

SAMPLE DUPLICATE: 3241862

Parameter	Units	50330458001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	274	281	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	274	281	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3241863

Parameter	Units	50330493003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	377	386	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	377	386	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705716 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705843
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: 50330416001, 50330416002, 50330416003, 50330416004

SAMPLE DUPLICATE: 3244758

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	2	2	H3

SAMPLE DUPLICATE: 3244759

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3244760

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705988
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: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3245799 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/12/22 11:47	

LABORATORY CONTROL SAMPLE: 3245800

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245801 3245802

Parameter	Units	50330416002 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	0.34	0.39	68	79	90-110	15	20	M3

MATRIX SPIKE SAMPLE: 3245803

Parameter	Units	50330461002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	104	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705425 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3242745 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 19:58	H3,N2

LABORATORY CONTROL SAMPLE: 3242746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242747 3242748

Parameter	Units	50330306004 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	97	100	90-110	4	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242749 3242750

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	106	109	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705109
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: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3241314 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/08/22 20:11	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/08/22 20:11	

LABORATORY CONTROL SAMPLE: 3241315

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: 3241316 3241317

Parameter	Units	50330416002 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	97	97	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	

MATRIX SPIKE SAMPLE: 3241318

Parameter	Units	50330354004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.89	89	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.96	96	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 705476 — 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: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3242974 — Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/15/22 14:56	

LABORATORY CONTROL SAMPLE: 3242975

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242976 — 3242977

Parameter	Units	50330416002 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				3		

MATRIX SPIKE SAMPLE: 3242978

Parameter	Units	50330432001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	1.8		3.4			

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 707235 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

METHOD BLANK: 3251105 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002, 50330416003, 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/21/22 15:19	

LABORATORY CONTROL SAMPLE: 3251106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3251107 3251108

Parameter	Units	50330416002 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	1.0	10	10	10.9	11.0	99	100	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252295 3252296

Parameter	Units	50330363001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	5.6	40	40	45.2	45.1	99	99	80-120	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 707803
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416001, 50330416002

METHOD BLANK: 3253653 Matrix: Water
Associated Lab Samples: 50330416001, 50330416002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/25/22 17:17	

LABORATORY CONTROL SAMPLE: 3253654

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: 3253655 3253656

Parameter	Units	50330360003 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	3.2	10	10	12.8	12.8	96	95	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3253661 3253662

Parameter	Units	50330416002 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	11.2	11.0	97	95	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330416

QC Batch: 707805
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330416004

METHOD BLANK: 3253663 Matrix: Water
Associated Lab Samples: 50330416004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/26/22 04:13	

LABORATORY CONTROL SAMPLE: 3253664

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: 3253665 3253666

Parameter	Units	50330493003 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	3.6	10	10	13.0	13.2	94	96	80-120	1	20	

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QUALIFIERS

Project: Petersburg P3R1
Pace Project No.: 50330416

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 P3R1
Pace Project No.: 50330416

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330416001	**MW-2R**	EPA 9056	705898		
50330416002	**MW-3**	EPA 9056	705898		
50330416003	**Field Blank**	EPA 9056	705898		
50330416004	**DUP-1**	EPA 9056	705898		
50330416001	**MW-2R**	EPA 3010	705377	EPA 6010	707303
50330416002	**MW-3**	EPA 3010	705377	EPA 6010	707303
50330416003	**Field Blank**	EPA 3010	705377	EPA 6010	707303
50330416004	**DUP-1**	EPA 3010	705377	EPA 6010	707303
50330416001	**MW-2R**	EPA 3010	707123	EPA 6010	707306
50330416002	**MW-3**	EPA 3010	707123	EPA 6010	707306
50330416004	**DUP-1**	EPA 3010	707123	EPA 6010	707306
50330416001	**MW-2R**	SM 2320B	705229		
50330416002	**MW-3**	SM 2320B	705229		
50330416003	**Field Blank**	SM 2320B	705232		
50330416004	**DUP-1**	SM 2320B	705232		
50330416001	**MW-2R**	SM 2540C	705716		
50330416002	**MW-3**	SM 2540C	705716		
50330416003	**Field Blank**	SM 2540C	705716		
50330416004	**DUP-1**	SM 2540C	705716		
50330416001	**MW-2R**	SM 4500-H+B	705843		
50330416002	**MW-3**	SM 4500-H+B	705843		
50330416003	**Field Blank**	SM 4500-H+B	705843		
50330416004	**DUP-1**	SM 4500-H+B	705843		
50330416001	**MW-2R**	SM 4500-S2-D	705988		
50330416002	**MW-3**	SM 4500-S2-D	705988		
50330416003	**Field Blank**	SM 4500-S2-D	705988		
50330416004	**DUP-1**	SM 4500-S2-D	705988		
50330416001	**MW-2R**	HACH 8146	705425		
50330416002	**MW-3**	HACH 8146	705425		
50330416003	**Field Blank**	HACH 8146	705425		
50330416004	**DUP-1**	HACH 8146	705425		
50330416001	**MW-2R**	EPA 353.2	705109		
50330416002	**MW-3**	EPA 353.2	705109		
50330416003	**Field Blank**	EPA 353.2	705109		
50330416004	**DUP-1**	EPA 353.2	705109		
50330416001	**MW-2R**	EPA 365.1	705476	EPA 365.1	706557
50330416002	**MW-3**	EPA 365.1	705476	EPA 365.1	706557
50330416003	**Field Blank**	EPA 365.1	705476	EPA 365.1	706557
50330416004	**DUP-1**	EPA 365.1	705476	EPA 365.1	706557
50330416001	**MW-2R**	SM 5310C	707235		
50330416002	**MW-3**	SM 5310C	707235		
50330416003	**Field Blank**	SM 5310C	707235		
50330416004	**DUP-1**	SM 5310C	707235		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R1
Pace Project No.: 50330416

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330416001	**MW-2R**	SM 5310C	707803		
50330416002	**MW-3**	SM 5310C	707803		
50330416004	**DUP-1**	SM 5310C	707805		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

WO# : 50330416

50330416

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 P3R1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

Regulatory Agency	State / Location
	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered** (Y)	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)	
										Requested Analysis Filtered (Y/N)												Y			Y				
1	MW-2R					11-7	1050		9	X	X	X		X					X	X	X	X	X	X	X	X		001
2	MW-3					11-7	1300		9	X	X	X		X					X	X	X	X	X	X	X	X		002
3	Field Blank-1					11-7	1300		9	X	X	X		X					X	X	X	X	X	X	X	X		003
4	DUP-1					11-7	1300		9	X	X	X		X					X	X	X	X	X	X	X	X		004
5	MS-1					11-7	1300		9	X	X	X		X					X	X	X	X	X	X	X	X		
6	MS-D1					11-7	1300		9	X	X	X		X					X	X	X	X	X	X	X	X		
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (k, Na, Mg, Mn)		11-8-22	0819		11/8/22	0819	
		11/8/22	1100		11/8/22	1100	SEE SCR
** 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)

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: [illegible] 11/8/22 1130

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

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

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

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

4. **Cooler Temperature(s):** 1.8/1.8 | 1.7/1.7 | 1.2/1.2 | 0.8/0.8
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 13:15		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		✓	

COMMENTS: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit				HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1				1	2	1	1	1		1					WT	✓	✓		✓
2												3	3				3	6	3	3	3		3									
3												1					1	2	1		1		1									
4												1	1				1	2	1	1	1		1									
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 22, 2023

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

RE: Project: Petersburg P2R1
Pace Project No.: 50330418

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: Petersburg P2R1
Pace Project No.: 50330418

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330418001	**MW-2R**	Water	11/07/22 10:50	11/08/22 11:00
50330418002	**MW-3**	Water	11/07/22 13:00	11/08/22 11:00
50330418003	**MW-3 MS**	Water	11/07/22 13:00	11/08/22 11:00
50330418004	**MW-3 MSD**	Water	11/07/22 13:00	11/08/22 11:00
50330418005	**Field Blank**	Water	11/07/22 13:00	11/08/22 11:00
50330418006	**DUP-1**	Water	11/07/22 13:00	11/08/22 11:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330418001	**MW-2R**	EPA 9056	ADM	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330418002	**MW-3**	EPA 9056	ADM	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330418003	**MW-3 MS**	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
50330418004	**MW-3 MSD**	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
50330418005	**Field Blank**	EPA 9056	ADM	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330418006	**DUP-1**	EPA 9056	ADM	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330418001	**MW-2R**					
EPA 9056	Chloride	73.9	mg/L	2.5	11/16/22 15:29	
EPA 9056	Sulfate	1460	mg/L	25.0	11/16/22 15:47	
EPA 6010	Barium	48.6	ug/L	10.0	11/19/22 00:19	
EPA 6010	Boron	2020	ug/L	100	11/19/22 00:19	
EPA 6010	Calcium	512000	ug/L	5000	11/19/22 00:59	
EPA 6010	Lithium	812	ug/L	20.0	11/19/22 00:19	
EPA 6010	Molybdenum	10.7	ug/L	10.0	11/19/22 00:19	
EPA 6020	Arsenic	10.0	ug/L	1.0	11/12/22 02:09	
EPA 6020	Cobalt	2.0	ug/L	1.0	11/12/22 02:09	
EPA 903.1	Radium-226	0.483 ± 0.362 (0.187) C:NA T:104%	pCi/L		11/29/22 16:17	
EPA 904.0	Radium-228	0.573 ± 0.335 (0.597) C:84% T:87%	pCi/L		12/01/22 14:52	
Total Radium Calculation	Total Radium	1.06 ± 0.697 (0.784)	pCi/L		12/02/22 15:31	
SM 2540C	Total Dissolved Solids	2620	mg/L	40.0	11/11/22 08:17	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 14:31	H3
50330418002	**MW-3**					
EPA 9056	Chloride	91.3	mg/L	25.0	11/16/22 16:21	
EPA 9056	Sulfate	982	mg/L	25.0	11/16/22 16:21	
EPA 6010	Barium	46.1	ug/L	10.0	11/19/22 00:21	
EPA 6010	Boron	945	ug/L	100	11/19/22 00:21	
EPA 6010	Calcium	289000	ug/L	5000	11/19/22 01:01	
EPA 6010	Lithium	1980	ug/L	20.0	11/19/22 00:21	
EPA 6010	Molybdenum	304	ug/L	10.0	11/19/22 00:21	
EPA 6020	Arsenic	17.3	ug/L	1.0	11/12/22 01:41	
EPA 6020	Cobalt	2.6	ug/L	1.0	11/12/22 01:41	
EPA 903.1	Radium-226	0.350 ± 0.429 (0.700) C:NA T:91%	pCi/L		11/29/22 16:17	
EPA 904.0	Radium-228	0.295 ± 0.302 (0.621) C:86% T:91%	pCi/L		12/01/22 14:53	
Total Radium Calculation	Total Radium	0.645 ± 0.731 (1.32)	pCi/L		12/02/22 15:31	
SM 2540C	Total Dissolved Solids	1790	mg/L	40.0	11/11/22 08:25	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	11/11/22 14:33	H3

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330418003	**MW-3 MS**					
EPA 903.1	Radium-226	88.44 %REC ± NA (NA) C:NA T:NA	pCi/L		11/29/22 16:17	
EPA 904.0	Radium-228	76.81 %REC ± NA (NA) C:NA T:NA	pCi/L		12/01/22 14:53	
50330418004	**MW-3 MSD**					
EPA 903.1	Radium-226	86.22 %REC 2.55RPD ± NA (NA) C:NA T:NA	pCi/L		11/29/22 16:17	
EPA 904.0	Radium-228	74.13 %REC 3.54RPD ± NA (NA) C:NA T:NA	pCi/L		12/01/22 14:53	
50330418005	**Field Blank**					
EPA 903.1	Radium-226	-0.494 ± 0.648 (1.49) C:NA T:99%	pCi/L		11/29/22 16:17	
EPA 904.0	Radium-228	0.224 ± 0.297 (0.632) C:82% T:92%	pCi/L		12/01/22 14:53	
Total Radium Calculation	Total Radium	0.224 ± 0.945 (2.12)	pCi/L		12/02/22 15:31	
SM 4500-H+B	pH at 25 Degrees C	6.1	Std. Units	0.10	11/11/22 14:36	H3
50330418006	**DUP-1**					
EPA 9056	Chloride	82.0	mg/L	2.5	11/16/22 16:56	
EPA 9056	Sulfate	1060	mg/L	25.0	11/16/22 17:13	
EPA 6010	Barium	46.4	ug/L	10.0	11/18/22 23:39	
EPA 6010	Boron	943	ug/L	100	11/18/22 23:39	
EPA 6010	Calcium	286000	ug/L	2000	11/19/22 00:37	
EPA 6010	Lithium	2010	ug/L	20.0	11/18/22 23:39	
EPA 6010	Molybdenum	298	ug/L	10.0	11/18/22 23:39	
EPA 6020	Arsenic	16.5	ug/L	1.0	11/12/22 02:17	
EPA 6020	Cobalt	1.9	ug/L	1.0	11/12/22 02:17	
EPA 903.1	Radium-226	0.469 ± 0.379 (0.212) C:NA T:98%	pCi/L		11/29/22 16:31	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50330418

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330418006	**DUP-1**					
EPA 904.0	Radium-228	0.595 ± 0.331 (0.592) C:84% T:93%	pCi/L		12/01/22 14:53	
Total Radium Calculation	Total Radium	1.06 ± 0.710 (0.804)	pCi/L		12/02/22 15:31	
SM 2540C	Total Dissolved Solids	1840	mg/L	40.0	11/11/22 08:18	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/11/22 15:48	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: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-2R **Lab ID: 50330418001** Collected: 11/07/22 10:50 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**73.9**	mg/L	2.5	0.67	10		11/16/22 15:29	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/16/22 15:12	16984-48-8	
Sulfate	**1460**	mg/L	25.0	8.5	100		11/16/22 15:47	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**48.6**	ug/L	10.0	2.1	1	11/17/22 08:42	11/19/22 00:19	7440-39-3	
Boron	**2020**	ug/L	100	37.6	1	11/17/22 08:42	11/19/22 00:19	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/19/22 00:19	7440-43-9	
Calcium	**512000**	ug/L	5000	815	5	11/17/22 08:42	11/19/22 00:59	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/19/22 00:19	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/19/22 00:19	7439-92-1	
Lithium	**812**	ug/L	20.0	6.2	1	11/17/22 08:42	11/19/22 00:19	7439-93-2	
Molybdenum	**10.7**	ug/L	10.0	3.7	1	11/17/22 08:42	11/19/22 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	0.13	1	11/10/22 16:00	11/12/22 02:09	7440-36-0	
Arsenic	**10.0**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:09	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:09	7440-41-7	
Cobalt	**2.0**	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:09	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:09	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2620**	mg/L	40.0	40.0	1		11/11/22 08:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 14:31		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-3 **Lab ID: 50330418002** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**91.3**	mg/L	25.0	6.7	100		11/16/22 16:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/16/22 16:04	16984-48-8	
Sulfate	**982**	mg/L	25.0	8.5	100		11/16/22 16:21	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**46.1**	ug/L	10.0	2.1	1	11/17/22 08:42	11/19/22 00:21	7440-39-3	
Boron	**945**	ug/L	100	37.6	1	11/17/22 08:42	11/19/22 00:21	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/19/22 00:21	7440-43-9	
Calcium	**289000**	ug/L	5000	815	5	11/17/22 08:42	11/19/22 01:01	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/19/22 00:21	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/19/22 00:21	7439-92-1	
Lithium	**1980**	ug/L	20.0	6.2	1	11/17/22 08:42	11/19/22 00:21	7439-93-2	
Molybdenum	**304**	ug/L	10.0	3.7	1	11/17/22 08:42	11/19/22 00:21	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/10/22 16:00	11/12/22 01:41	7440-36-0	
Arsenic	**17.3**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 01:41	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 01:41	7440-41-7	
Cobalt	**2.6**	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 01:41	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 01:41	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1790**	mg/L	40.0	40.0	1		11/11/22 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.6**	Std. Units	0.10	0.10	1		11/11/22 14:33		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: Field Blank **Lab ID: 50330418005** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	0.067	1		11/16/22 18:05	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/16/22 18:05	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		11/16/22 18:05	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	ND	ug/L	10.0	2.1	1	11/17/22 08:42	11/18/22 23:37	7440-39-3	
Boron	ND	ug/L	100	37.6	1	11/17/22 08:42	11/18/22 23:37	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/18/22 23:37	7440-43-9	
Calcium	ND	ug/L	1000	163	1	11/17/22 08:42	11/18/22 23:37	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/18/22 23:37	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/18/22 23:37	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/17/22 08:42	11/18/22 23:37	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 23:37	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	0.13	1	11/10/22 16:00	11/12/22 02:13	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:13	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:13	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:13	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:13	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/11/22 08:18		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.1**	Std. Units	0.10	0.10	1		11/11/22 14:36		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: DUP-1 **Lab ID: 50330418006** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**82.0**	mg/L	2.5	0.67	10		11/16/22 16:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		11/16/22 16:39	16984-48-8	
Sulfate	**1060**	mg/L	25.0	8.5	100		11/16/22 17:13	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**46.4**	ug/L	10.0	2.1	1	11/17/22 08:42	11/18/22 23:39	7440-39-3	
Boron	**943**	ug/L	100	37.6	1	11/17/22 08:42	11/18/22 23:39	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/18/22 23:39	7440-43-9	
Calcium	**286000**	ug/L	2000	326	2	11/17/22 08:42	11/19/22 00:37	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/18/22 23:39	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/18/22 23:39	7439-92-1	
Lithium	**2010**	ug/L	20.0	6.2	1	11/17/22 08:42	11/18/22 23:39	7439-93-2	
Molybdenum	**298**	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 23:39	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	0.13	1	11/10/22 16:00	11/12/22 02:17	7440-36-0	
Arsenic	**16.5**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:17	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:17	7440-41-7	
Cobalt	**1.9**	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:17	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:17	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1840**	mg/L	40.0	40.0	1		11/11/22 08:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		11/11/22 15:48		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 706021
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

METHOD BLANK: 3246039 Matrix: Water
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/18/22 07:12	
Fluoride	mg/L	ND	0.10	0.017	11/18/22 07:12	
Sulfate	mg/L	ND	0.25	0.085	11/18/22 07:12	

LABORATORY CONTROL SAMPLE: 3246040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	93	80-120	
Fluoride	mg/L	0.5	0.49	98	80-120	
Sulfate	mg/L	2.5	2.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246041 3246042

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	91.3	125	125	207	206	93	92	80-120	0	15	
Fluoride	mg/L	ND	0.5	0.5	0.57	0.57	98	98	80-120	0	15	
Sulfate	mg/L	982	250	250	1200	1200	87	86	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705377
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

METHOD BLANK: 3242496 Matrix: Water
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/18/22 23:25	
Boron	ug/L	ND	100	37.6	11/18/22 23:25	
Cadmium	ug/L	ND	2.0	0.66	11/18/22 23:25	
Calcium	ug/L	ND	1000	163	11/18/22 23:25	
Chromium	ug/L	ND	10.0	0.97	11/18/22 23:25	
Lead	ug/L	ND	10.0	2.6	11/18/22 23:25	
Lithium	ug/L	ND	20.0	6.2	11/18/22 23:25	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 23:25	

LABORATORY CONTROL SAMPLE: 3242497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1000	100	80-120	
Boron	ug/L	1000	992	99	80-120	
Cadmium	ug/L	1000	984	98	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	1000	990	99	80-120	
Lead	ug/L	1000	988	99	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242498 3242499

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	44.9	1000	1000	1050	1080	100	104	75-125	3	20	
Boron	ug/L	943	1000	1000	2100	2010	116	107	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	993	1030	99	103	75-125	4	20	
Calcium	ug/L	282000	10000	10000	326000	295000	440	132	75-125	10	20	P6
Chromium	ug/L	ND	1000	1000	964	1000	96	100	75-125	4	20	
Lead	ug/L	ND	1000	1000	948	984	95	98	75-125	4	20	
Lithium	ug/L	1990	1000	1000	3380	3160	139	117	75-125	7	20	M0
Molybdenum	ug/L	286	1000	1000	1360	1370	108	108	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242500 3242501

Parameter	Units	50330417002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	41.2	1000	1000	1050	1040	101	100	75-125	1	20	
Boron	ug/L	917	1000	1000	1930	1950	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	997	1010	100	101	75-125	1	20	
Calcium	ug/L	282000	10000	10000	286000	295000	39	122	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	970	985	97	98	75-125	2	20	
Lead	ug/L	ND	1000	1000	958	957	96	96	75-125	0	20	
Lithium	ug/L	1930	1000	1000	3020	3010	110	108	75-125	0	20	
Molybdenum	ug/L	308	1000	1000	1350	1360	104	105	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242502 3242503

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	46.1	1000	1000	1050	1050	101	100	75-125	0	20	
Boron	ug/L	945	1000	1000	1950	1980	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	
Calcium	ug/L	289000	10000	10000	295000	296000	55	70	75-125	0	20	P6
Chromium	ug/L	ND	1000	1000	989	988	99	99	75-125	0	20	
Lead	ug/L	ND	1000	1000	966	963	97	96	75-125	0	20	
Lithium	ug/L	1980	1000	1000	3060	3080	108	110	75-125	1	20	
Molybdenum	ug/L	304	1000	1000	1350	1350	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705497
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

METHOD BLANK: 3243079 Matrix: Water
Associated Lab Samples: 50330418001, 50330418002, 50330418005, 50330418006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	11/12/22 01:34	
Arsenic	ug/L	ND	1.0	0.11	11/12/22 01:34	
Beryllium	ug/L	ND	0.20	0.033	11/12/22 01:34	
Cobalt	ug/L	ND	1.0	0.086	11/12/22 01:34	
Selenium	ug/L	ND	1.0	0.35	11/12/22 01:34	

LABORATORY CONTROL SAMPLE: 3243080

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.6	104	80-120	
Arsenic	ug/L	40	39.2	98	80-120	
Beryllium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Selenium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243081 3243082

Parameter	Units	50330418002 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	43.5	107	108	75-125	1	20	
Arsenic	ug/L	17.3	40	40	57.5	56.5	100	98	75-125	2	20	
Beryllium	ug/L	ND	40	40	43.2	43.2	108	108	75-125	0	20	
Cobalt	ug/L	2.6	40	40	40.7	41.8	95	98	75-125	3	20	
Selenium	ug/L	ND	40	40	42.1	43.2	104	107	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705716
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330418001, 50330418005, 50330418006

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330418001, 50330418005, 50330418006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705718
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330418002

METHOD BLANK: 3244187 Matrix: Water
Associated Lab Samples: 50330418002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:25	

LABORATORY CONTROL SAMPLE: 3244188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	281	94	80-120	

SAMPLE DUPLICATE: 3244189

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1790	1680	6	10	

SAMPLE DUPLICATE: 3244190

Parameter	Units	50330458003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	649	659	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705843
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: 50330418001, 50330418002, 50330418005

SAMPLE DUPLICATE: 3244758

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	2	2	H3

SAMPLE DUPLICATE: 3244759

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	2	H3

SAMPLE DUPLICATE: 3244760

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	0	2	H3

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 705895
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: 50330418006

SAMPLE DUPLICATE: 3245137

Parameter	Units	50330418006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	2	H3

SAMPLE DUPLICATE: 3245138

Parameter	Units	50330493003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.2	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-2R **Lab ID: 50330418001** Collected: 11/07/22 10:50 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.483 ± 0.362 (0.187) C:NA T:104%**	pCi/L	11/29/22 16:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.573 ± 0.335 (0.597) C:84% T:87%**	pCi/L	12/01/22 14:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.06 ± 0.697 (0.784)**	pCi/L	12/02/22 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-3 **Lab ID: 50330418002** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.350 ± 0.429 (0.700) C:NA T:91%**	pCi/L	11/29/22 16:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.295 ± 0.302 (0.621) C:86% T:91%**	pCi/L	12/01/22 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.645 ± 0.731 (1.32)**	pCi/L	12/02/22 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-3 MS **Lab ID: 50330418003** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**88.44 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 16:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**76.81 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/01/22 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: MW-3 MSD **Lab ID: 50330418004** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**86.22 %REC 2.55RPD ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 16:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**74.13 %REC 3.54RPD ± NA (NA) C:NA T:NA**	pCi/L	12/01/22 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: Field Blank **Lab ID: 50330418005** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.494 ± 0.648 (1.49) C:NA T:99%**	pCi/L	11/29/22 16:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.224 ± 0.297 (0.632) C:82% T:92%**	pCi/L	12/01/22 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.224 ± 0.945 (2.12)**	pCi/L	12/02/22 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

Sample: DUP-1 **Lab ID: 50330418006** Collected: 11/07/22 13:00 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.469 ± 0.379 (0.212) C:NA T:98%**	pCi/L	11/29/22 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.595 ± 0.331 (0.592) C:84% T:93%**	pCi/L	12/01/22 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.06 ± 0.710 (0.804)**	pCi/L	12/02/22 15:31	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 546158
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: 50330418001, 50330418002, 50330418003, 50330418004, 50330418005, 50330418006

METHOD BLANK: 2652169 Matrix: Water
Associated Lab Samples: 50330418001, 50330418002, 50330418003, 50330418004, 50330418005, 50330418006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0854 ± 0.443 (0.919) C:NA T:96%	pCi/L	11/29/22 16:17	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330418

QC Batch: 546161
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: 50330418001, 50330418002, 50330418003, 50330418004, 50330418005, 50330418006

METHOD BLANK: 2652174 Matrix: Water
Associated Lab Samples: 50330418001, 50330418002, 50330418003, 50330418004, 50330418005, 50330418006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.150 ± 0.273 (0.598) C:89% T:89%	pCi/L	12/01/22 14:54	

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(317)228-3100

QUALIFIERS

Project: Petersburg P2R1
Pace Project No.: 50330418

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.
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
Pace Project No.: 50330418

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330418001	**MW-2R**	EPA 9056	706021		
50330418002	**MW-3**	EPA 9056	706021		
50330418005	**Field Blank**	EPA 9056	706021		
50330418006	**DUP-1**	EPA 9056	706021		
50330418001	**MW-2R**	EPA 3010	705377	EPA 6010	707303
50330418002	**MW-3**	EPA 3010	705377	EPA 6010	707303
50330418005	**Field Blank**	EPA 3010	705377	EPA 6010	707303
50330418006	**DUP-1**	EPA 3010	705377	EPA 6010	707303
50330418001	**MW-2R**	EPA 200.2	705497	EPA 6020	705698
50330418002	**MW-3**	EPA 200.2	705497	EPA 6020	705698
50330418005	**Field Blank**	EPA 200.2	705497	EPA 6020	705698
50330418006	**DUP-1**	EPA 200.2	705497	EPA 6020	705698
50330418001	**MW-2R**	EPA 903.1	546158		
50330418002	**MW-3**	EPA 903.1	546158		
50330418003	**MW-3 MS**	EPA 903.1	546158		
50330418004	**MW-3 MSD**	EPA 903.1	546158		
50330418005	**Field Blank**	EPA 903.1	546158		
50330418006	**DUP-1**	EPA 903.1	546158		
50330418001	**MW-2R**	EPA 904.0	546161		
50330418002	**MW-3**	EPA 904.0	546161		
50330418003	**MW-3 MS**	EPA 904.0	546161		
50330418004	**MW-3 MSD**	EPA 904.0	546161		
50330418005	**Field Blank**	EPA 904.0	546161		
50330418006	**DUP-1**	EPA 904.0	546161		
50330418001	**MW-2R**	Total Radium Calculation	551116		
50330418002	**MW-3**	Total Radium Calculation	551116		
50330418005	**Field Blank**	Total Radium Calculation	551116		
50330418006	**DUP-1**	Total Radium Calculation	551116		
50330418001	**MW-2R**	SM 2540C	705716		
50330418002	**MW-3**	SM 2540C	705718		
50330418005	**Field Blank**	SM 2540C	705716		
50330418006	**DUP-1**	SM 2540C	705716		
50330418001	**MW-2R**	SM 4500-H+B	705843		
50330418002	**MW-3**	SM 4500-H+B	705843		
50330418005	**Field Blank**	SM 4500-H+B	705843		
50330418006	**DUP-1**	SM 4500-H+B	705895		

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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50330418

50330418

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:	**Regulatory Agency**
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)579-4082 Fax:	Project Name: Petersburg P2R1	Pace Project Manager: Hayden Putt	**State / Location**
Requested Due Date:	Project #:	Pace Profile #: 10498/27	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 + ZnAcetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-2R					11-7	1050		5	X		X						X	X	X	X			001
2	MW-3					11-7	1300		5	X		X						X	X	X	X			002 003 004
3	Field Blank-1					11-7	1300		5	X		X						X	X	X	X			005
4	DUP-1					11-7	1300		5	X		X						X	X	X	X			006
5	MS-1					11-7	1300		5	X		X						X	X	X	X			
6	MSD-1					11-7	1300		5	X		X						X	X	X	X			
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li		11-8-22	0814		11/8/22	0819	
6020: Be,Co,Cu,Zn,As,Se		11/8/22	1160		11/8/22	1150	

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

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MH 11/8/22 1130

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

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

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

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

4. **Cooler Temperature(s):** 1.8/1.8 | 1.7/1.7 | 1.2/1.2 | 0.8/0.8

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

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

COMMENTS: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC								OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit				HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																2		2	1									WT	✓			
2																6		6	3													
3																2		2	1													
4																2		2	1													
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P2R3
Pace Project No.: 50330419

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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7726 Moller Road
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(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R3
Pace Project No.: 50330419

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P2R3
Pace Project No.: 50330419

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330419001	**MW-16**	Water	11/07/22 09:55	11/08/22 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50330419

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330419001	**MW-16**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50330419

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330419001	**MW-16**					
EPA 9056	Chloride	60.7	mg/L	2.5	11/11/22 18:48	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/11/22 18:32	
EPA 9056	Sulfate	1170	mg/L	25.0	11/17/22 05:44	
EPA 6010	Barium	62.0	ug/L	10.0	11/19/22 00:28	
EPA 6010	Boron	3070	ug/L	100	11/19/22 00:28	
EPA 6010	Calcium	421000	ug/L	5000	11/19/22 01:12	
EPA 6010	Lithium	1540	ug/L	20.0	11/19/22 00:28	
EPA 6010	Molybdenum	412	ug/L	10.0	11/19/22 00:28	
EPA 6020	Arsenic	5.3	ug/L	1.0	11/12/22 02:21	
EPA 903.1	Radium-226	0.417 ± 0.702 (1.10) C:NA T:99%	pCi/L		11/29/22 14:32	
EPA 904.0	Radium-228	1.52 ± 0.472 (0.577) C:80% T:92%	pCi/L		11/30/22 11:42	
Total Radium Calculation	Total Radium	1.94 ± 1.17 (1.68)	pCi/L		12/01/22 14:22	
SM 2540C	Total Dissolved Solids	2190	mg/L	40.0	11/11/22 08:18	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 15:50	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50330419

Sample: MW-16 **Lab ID: 50330419001** Collected: 11/07/22 09:55 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**60.7**	mg/L	2.5	0.67	10		11/11/22 18:48	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		11/11/22 18:32	16984-48-8	
Sulfate	**1170**	mg/L	25.0	8.5	100		11/17/22 05:44	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**62.0**	ug/L	10.0	2.1	1	11/17/22 08:42	11/19/22 00:28	7440-39-3	
Boron	**3070**	ug/L	100	37.6	1	11/17/22 08:42	11/19/22 00:28	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/19/22 00:28	7440-43-9	
Calcium	**421000**	ug/L	5000	815	5	11/17/22 08:42	11/19/22 01:12	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/19/22 00:28	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/19/22 00:28	7439-92-1	
Lithium	**1540**	ug/L	20.0	6.2	1	11/17/22 08:42	11/19/22 00:28	7439-93-2	
Molybdenum	**412**	ug/L	10.0	3.7	1	11/17/22 08:42	11/19/22 00:28	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Arsenic	**5.3**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:21	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:21	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:21	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:21	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2190**	mg/L	40.0	40.0	1		11/11/22 08:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 15:50		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 705749
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330419001

METHOD BLANK: 3244345 Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/11/22 09:43	
Fluoride	mg/L	ND	0.10	0.017	11/11/22 09:43	
Sulfate	mg/L	ND	0.25	0.085	11/11/22 09:43	

LABORATORY CONTROL SAMPLE: 3244346

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	95	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244347 3244348

Parameter	Units	50330795001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	42.6	12.5	12.5	56.4	55.9	110	106	80-120	1	15	
Fluoride	mg/L	0.16	0.5	0.5	0.72	0.72	113	112	80-120	1	15	
Sulfate	mg/L	105	25	25	126	126	86	87	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 705377
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330419001

METHOD BLANK: 3242496 Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/18/22 23:25	
Boron	ug/L	ND	100	37.6	11/18/22 23:25	
Cadmium	ug/L	ND	2.0	0.66	11/18/22 23:25	
Calcium	ug/L	ND	1000	163	11/18/22 23:25	
Chromium	ug/L	ND	10.0	0.97	11/18/22 23:25	
Lead	ug/L	ND	10.0	2.6	11/18/22 23:25	
Lithium	ug/L	ND	20.0	6.2	11/18/22 23:25	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 23:25	

LABORATORY CONTROL SAMPLE: 3242497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1000	100	80-120	
Boron	ug/L	1000	992	99	80-120	
Cadmium	ug/L	1000	984	98	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	1000	990	99	80-120	
Lead	ug/L	1000	988	99	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242498 3242499

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	44.9	1000	1000	1050	1080	100	104	75-125	3	20	
Boron	ug/L	943	1000	1000	2100	2010	116	107	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	993	1030	99	103	75-125	4	20	
Calcium	ug/L	282000	10000	10000	326000	295000	440	132	75-125	10	20	P6
Chromium	ug/L	ND	1000	1000	964	1000	96	100	75-125	4	20	
Lead	ug/L	ND	1000	1000	948	984	95	98	75-125	4	20	
Lithium	ug/L	1990	1000	1000	3380	3160	139	117	75-125	7	20	M0
Molybdenum	ug/L	286	1000	1000	1360	1370	108	108	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242500 3242501

Parameter	Units	50330417002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	41.2	1000	1000	1050	1040	101	100	75-125	1	20	
Boron	ug/L	917	1000	1000	1930	1950	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	997	1010	100	101	75-125	1	20	
Calcium	ug/L	282000	10000	10000	286000	295000	39	122	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	970	985	97	98	75-125	2	20	
Lead	ug/L	ND	1000	1000	958	957	96	96	75-125	0	20	
Lithium	ug/L	1930	1000	1000	3020	3010	110	108	75-125	0	20	
Molybdenum	ug/L	308	1000	1000	1350	1360	104	105	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242502 3242503

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	46.1	1000	1000	1050	1050	101	100	75-125	0	20	
Boron	ug/L	945	1000	1000	1950	1980	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	
Calcium	ug/L	289000	10000	10000	295000	296000	55	70	75-125	0	20	P6
Chromium	ug/L	ND	1000	1000	989	988	99	99	75-125	0	20	
Lead	ug/L	ND	1000	1000	966	963	97	96	75-125	0	20	
Lithium	ug/L	1980	1000	1000	3060	3080	108	110	75-125	1	20	
Molybdenum	ug/L	304	1000	1000	1350	1350	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 705497
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330419001

METHOD BLANK: 3243079 Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	0.11	11/12/22 01:34	
Beryllium	ug/L	ND	0.20	0.033	11/12/22 01:34	
Cobalt	ug/L	ND	1.0	0.086	11/12/22 01:34	
Selenium	ug/L	ND	1.0	0.35	11/12/22 01:34	

LABORATORY CONTROL SAMPLE: 3243080

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.2	98	80-120	
Beryllium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Selenium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243081 3243082

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	17.3	40	40	57.5	56.5	100	98	75-125	2	20	
Beryllium	ug/L	ND	40	40	43.2	43.2	108	108	75-125	0	20	
Cobalt	ug/L	2.6	40	40	40.7	41.8	95	98	75-125	3	20	
Selenium	ug/L	ND	40	40	42.1	43.2	104	107	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 705716
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330419001

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 705895
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: 50330419001

SAMPLE DUPLICATE: 3245137

Parameter	Units	50330418006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	2	H3

SAMPLE DUPLICATE: 3245138

Parameter	Units	50330493003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.2	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330419

Sample: MW-16 **Lab ID: 50330419001** Collected: 11/07/22 09:55 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.417 ± 0.702 (1.10) C:NA T:99%**	pCi/L	11/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.52 ± 0.472 (0.577) C:80% T:92%**	pCi/L	11/30/22 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.94 ± 1.17 (1.68)**	pCi/L	12/01/22 14:22	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 546151
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: 50330419001

METHOD BLANK: 2652153 Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.893 ± 0.407 (0.679) C:76% T:91%	pCi/L	11/30/22 11:42	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50330419

QC Batch: 546149
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: 50330419001

METHOD BLANK: 2652150
Matrix: Water
Associated Lab Samples: 50330419001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.189 ± 0.288 (0.463) C:NA T:96%	pCi/L	11/29/22 14:32	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Petersburg P2R3
Pace Project No.: 50330419

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R3
Pace Project No.: 50330419

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330419001	**MW-16**	EPA 9056	705749		
50330419001	**MW-16**	EPA 3010	705377	EPA 6010	707303
50330419001	**MW-16**	EPA 200.2	705497	EPA 6020	705698
50330419001	**MW-16**	EPA 903.1	546149		
50330419001	**MW-16**	EPA 904.0	546151		
50330419001	**MW-16**	Total Radium Calculation	550751		
50330419001	**MW-16**	SM 2540C	705716		
50330419001	**MW-16**	SM 4500-H+B	705895		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50330419

50330419

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	Regulatory Agency
Indianapolis, IN 46256		Address:	
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)579-4082 Fax:	Project Name: Petersburg P2R3	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 10498/27	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	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW-16					11-7	0955		5	X		X							X	X	X	X	
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li		11-8-22	0819		11/8/22	0819	
6020: Be,Co,Cu,Zn,As,Se		11/8/22	1100		11/8/22	1100	SEE SCR

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:				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: VM 1.18/22 1130

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

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

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

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

4. **Cooler Temperature(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

1.8/1.8	1.7/1.7	1.2/1.2	0.8/0.8

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

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

COMMENTS: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit							
1																2		2	1													
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

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

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 22, 2023

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

RE: Project: Petersburg P2R2
Pace Project No.: 50330420

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P2R2
Pace Project No.: 50330420

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R2
Pace Project No.: 50330420

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330420001	**MW-1**	Water	11/07/22 12:20	11/08/22 11:00
50330420002	**MW-10**	Water	11/07/22 14:15	11/08/22 11:00
50330420003	**MW-11**	Water	11/07/22 16:10	11/08/22 11:00
50330420004	**MW-12**	Water	11/07/22 17:05	11/08/22 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R2
Pace Project No.: 50330420

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330420001	**MW-1**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330420002	**MW-10**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330420003	**MW-11**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
50330420004	**MW-12**	EPA 9056	RMR	3	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P2R2
Pace Project No.: 50330420

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330420001	**MW-1**					
EPA 9056	Chloride	3.7	mg/L	0.25	11/11/22 19:54	
EPA 9056	Fluoride	0.11	mg/L	0.10	11/11/22 19:54	
EPA 9056	Sulfate	205	mg/L	2.5	11/11/22 20:11	
EPA 6010	Barium	45.7	ug/L	10.0	11/18/22 23:41	
EPA 6010	Boron	178	ug/L	100	11/18/22 23:41	
EPA 6010	Calcium	129000	ug/L	1000	11/18/22 23:41	
EPA 903.1	Radium-226	0.000 ± 0.608 (1.26) C:NA T:93%	pCi/L		11/29/22 14:32	
EPA 904.0	Radium-228	0.831 ± 0.400 (0.682) C:82% T:82%	pCi/L		11/30/22 11:42	
Total Radium Calculation	Total Radium	0.831 ± 1.01 (1.94)	pCi/L		12/01/22 14:22	
SM 2540C	Total Dissolved Solids	612	mg/L	10.0	11/11/22 08:18	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	11/11/22 15:51	H3
50330420002	**MW-10**					
EPA 9056	Chloride	121	mg/L	25.0	11/17/22 06:00	
EPA 9056	Fluoride	0.47	mg/L	0.10	11/11/22 20:27	
EPA 9056	Sulfate	1170	mg/L	25.0	11/17/22 06:00	
EPA 6010	Barium	68.1	ug/L	10.0	11/19/22 00:30	
EPA 6010	Boron	22800	ug/L	100	11/19/22 00:30	
EPA 6010	Calcium	556000	ug/L	5000	11/19/22 01:14	
EPA 6010	Lithium	44.6	ug/L	20.0	11/19/22 00:30	
EPA 6010	Molybdenum	14.7	ug/L	10.0	11/19/22 00:30	
EPA 6020	Arsenic	90.1	ug/L	1.0	11/12/22 02:37	
EPA 6020	Cobalt	2.3	ug/L	1.0	11/12/22 02:37	
EPA 6020	Selenium	1.0	ug/L	1.0	11/12/22 02:37	
EPA 903.1	Radium-226	0.162 ± 0.674 (1.29) C:NA T:92%	pCi/L		11/29/22 14:32	
EPA 904.0	Radium-228	0.900 ± 0.432 (0.743) C:79% T:83%	pCi/L		11/30/22 11:42	
Total Radium Calculation	Total Radium	1.06 ± 1.11 (2.03)	pCi/L		12/01/22 14:22	
SM 2540C	Total Dissolved Solids	2690	mg/L	20.0	11/11/22 08:25	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	11/11/22 15:51	H3
50330420003	**MW-11**					
EPA 9056	Chloride	3.3	mg/L	0.25	11/11/22 21:00	
EPA 9056	Fluoride	0.15	mg/L	0.10	11/11/22 21:00	
EPA 9056	Sulfate	457	mg/L	25.0	11/17/22 06:16	
EPA 6010	Barium	75.5	ug/L	10.0	11/18/22 23:44	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P2R2
Pace Project No.: 50330420

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330420003	**MW-11**					
EPA 6010	Boron	1040	ug/L	100	11/18/22 23:44	
EPA 6010	Calcium	168000	ug/L	1000	11/18/22 23:44	
EPA 6010	Chromium	12.9	ug/L	10.0	11/18/22 23:44	
EPA 6020	Arsenic	9.8	ug/L	1.0	11/12/22 04:13	
EPA 6020	Beryllium	0.66	ug/L	0.20	11/14/22 16:59	
EPA 6020	Cobalt	2.6	ug/L	1.0	11/12/22 04:13	
EPA 6020	Selenium	5.5	ug/L	1.0	11/12/22 04:13	
EPA 903.1	Radium-226	1.46 ± 1.15 (1.35) C:NA T:95%	pCi/L		11/29/22 14:32	
EPA 904.0	Radium-228	2.55 ± 0.908 (1.26) C:77% T:85%	pCi/L		11/30/22 11:42	
Total Radium Calculation	Total Radium	4.01 ± 2.06 (2.61)	pCi/L		12/01/22 14:22	
SM 2540C	Total Dissolved Solids	847	mg/L	10.0	11/11/22 08:25	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 15:52	H3
50330420004	**MW-12**					
EPA 9056	Chloride	8.1	mg/L	0.25	11/11/22 21:49	
EPA 9056	Fluoride	0.12	mg/L	0.10	11/11/22 21:49	
EPA 9056	Sulfate	13.8	mg/L	0.25	11/11/22 21:49	
EPA 6010	Barium	28.0	ug/L	10.0	11/18/22 23:46	
EPA 6010	Calcium	46800	ug/L	1000	11/18/22 23:46	
EPA 6020	Arsenic	1.1	ug/L	1.0	11/12/22 02:41	
EPA 903.1	Radium-226	0.000 ± 0.340 (0.548) C:NA T:98%	pCi/L		11/29/22 14:48	
EPA 904.0	Radium-228	0.290 ± 0.272 (0.549) C:80% T:91%	pCi/L		11/30/22 11:42	
Total Radium Calculation	Total Radium	0.290 ± 0.612 (1.10)	pCi/L		12/01/22 14:22	
SM 2540C	Total Dissolved Solids	237	mg/L	10.0	11/11/22 08:26	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 15:53	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-1 **Lab ID: 50330420001** Collected: 11/07/22 12:20 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**3.7**	mg/L	0.25	0.067	1		11/11/22 19:54	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.017	1		11/11/22 19:54	16984-48-8	
Sulfate	**205**	mg/L	2.5	0.85	10		11/11/22 20:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**45.7**	ug/L	10.0	2.1	1	11/17/22 08:42	11/18/22 23:41	7440-39-3	
Boron	**178**	ug/L	100	37.6	1	11/17/22 08:42	11/18/22 23:41	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/18/22 23:41	7440-43-9	
Calcium	**129000**	ug/L	1000	163	1	11/17/22 08:42	11/18/22 23:41	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/18/22 23:41	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/18/22 23:41	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/17/22 08:42	11/18/22 23:41	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 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	1.0	0.13	1	11/10/22 16:00	11/12/22 02:33	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:33	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:33	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:33	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:33	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**612**	mg/L	10.0	10.0	1		11/11/22 08:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		11/11/22 15:51		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-10 **Lab ID: 50330420002** Collected: 11/07/22 14:15 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**121**	mg/L	25.0	6.7	100		11/17/22 06:00	16887-00-6	
Fluoride	**0.47**	mg/L	0.10	0.017	1		11/11/22 20:27	16984-48-8	
Sulfate	**1170**	mg/L	25.0	8.5	100		11/17/22 06:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**68.1**	ug/L	10.0	2.1	1	11/17/22 08:42	11/19/22 00:30	7440-39-3	
Boron	**22800**	ug/L	100	37.6	1	11/17/22 08:42	11/19/22 00:30	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/19/22 00:30	7440-43-9	
Calcium	**556000**	ug/L	5000	815	5	11/17/22 08:42	11/19/22 01:14	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/19/22 00:30	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/19/22 00:30	7439-92-1	
Lithium	**44.6**	ug/L	20.0	6.2	1	11/17/22 08:42	11/19/22 00:30	7439-93-2	
Molybdenum	**14.7**	ug/L	10.0	3.7	1	11/17/22 08:42	11/19/22 00:30	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/10/22 16:00	11/12/22 02:37	7440-36-0	
Arsenic	**90.1**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:37	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:37	7440-41-7	
Cobalt	**2.3**	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:37	7440-48-4	
Selenium	**1.0**	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:37	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2690**	mg/L	20.0	20.0	1		11/11/22 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		11/11/22 15:51		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-11 **Lab ID: 50330420003** Collected: 11/07/22 16:10 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**3.3**	mg/L	0.25	0.067	1		11/11/22 21:00	16887-00-6	
Fluoride	**0.15**	mg/L	0.10	0.017	1		11/11/22 21:00	16984-48-8	
Sulfate	**457**	mg/L	25.0	8.5	100		11/17/22 06:16	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**75.5**	ug/L	10.0	2.1	1	11/17/22 08:42	11/18/22 23:44	7440-39-3	
Boron	**1040**	ug/L	100	37.6	1	11/17/22 08:42	11/18/22 23:44	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/18/22 23:44	7440-43-9	
Calcium	**168000**	ug/L	1000	163	1	11/17/22 08:42	11/18/22 23:44	7440-70-2	
Chromium	**12.9**	ug/L	10.0	0.97	1	11/17/22 08:42	11/18/22 23:44	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/18/22 23:44	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/17/22 08:42	11/18/22 23:44	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 23:44	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/10/22 16:00	11/12/22 04:13	7440-36-0	
Arsenic	**9.8**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 04:13	7440-38-2	
Beryllium	**0.66**	ug/L	0.20	0.033	1	11/10/22 16:00	11/14/22 16:59	7440-41-7	
Cobalt	**2.6**	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 04:13	7440-48-4	
Selenium	**5.5**	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 04:13	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**847**	mg/L	10.0	10.0	1		11/11/22 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 15:52		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-12 **Lab ID: 50330420004** Collected: 11/07/22 17:05 Received: 11/08/22 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**8.1**	mg/L	0.25	0.067	1		11/11/22 21:49	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		11/11/22 21:49	16984-48-8	
Sulfate	**13.8**	mg/L	0.25	0.085	1		11/11/22 21:49	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**28.0**	ug/L	10.0	2.1	1	11/17/22 08:42	11/18/22 23:46	7440-39-3	
Boron	ND	ug/L	100	37.6	1	11/17/22 08:42	11/18/22 23:46	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/17/22 08:42	11/18/22 23:46	7440-43-9	
Calcium	**46800**	ug/L	1000	163	1	11/17/22 08:42	11/18/22 23:46	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/17/22 08:42	11/18/22 23:46	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/17/22 08:42	11/18/22 23:46	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	11/17/22 08:42	11/18/22 23:46	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/17/22 08:42	11/18/22 23:46	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/10/22 16:00	11/12/22 02:41	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.11	1	11/10/22 16:00	11/12/22 02:41	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/10/22 16:00	11/12/22 02:41	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/10/22 16:00	11/12/22 02:41	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/10/22 16:00	11/12/22 02:41	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**237**	mg/L	10.0	10.0	1		11/11/22 08:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 15:53		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 705749
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

METHOD BLANK: 3244345 Matrix: Water
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/11/22 09:43	
Fluoride	mg/L	ND	0.10	0.017	11/11/22 09:43	
Sulfate	mg/L	ND	0.25	0.085	11/11/22 09:43	

LABORATORY CONTROL SAMPLE: 3244346

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	95	80-120	
Sulfate	mg/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244347 3244348

Parameter	Units	50330795001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	42.6	12.5	12.5	56.4	55.9	110	106	80-120	1	15	
Fluoride	mg/L	0.16	0.5	0.5	0.72	0.72	113	112	80-120	1	15	
Sulfate	mg/L	105	25	25	126	126	86	87	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 705377
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

METHOD BLANK: 3242496 Matrix: Water
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/18/22 23:25	
Boron	ug/L	ND	100	37.6	11/18/22 23:25	
Cadmium	ug/L	ND	2.0	0.66	11/18/22 23:25	
Calcium	ug/L	ND	1000	163	11/18/22 23:25	
Chromium	ug/L	ND	10.0	0.97	11/18/22 23:25	
Lead	ug/L	ND	10.0	2.6	11/18/22 23:25	
Lithium	ug/L	ND	20.0	6.2	11/18/22 23:25	
Molybdenum	ug/L	ND	10.0	3.7	11/18/22 23:25	

LABORATORY CONTROL SAMPLE: 3242497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1000	100	80-120	
Boron	ug/L	1000	992	99	80-120	
Cadmium	ug/L	1000	984	98	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	1000	990	99	80-120	
Lead	ug/L	1000	988	99	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242498 3242499

Parameter	Units	50330416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	44.9	1000	1000	1050	1080	100	104	75-125	3	20	
Boron	ug/L	943	1000	1000	2100	2010	116	107	75-125	4	20	
Cadmium	ug/L	ND	1000	1000	993	1030	99	103	75-125	4	20	
Calcium	ug/L	282000	10000	10000	326000	295000	440	132	75-125	10	20	P6
Chromium	ug/L	ND	1000	1000	964	1000	96	100	75-125	4	20	
Lead	ug/L	ND	1000	1000	948	984	95	98	75-125	4	20	
Lithium	ug/L	1990	1000	1000	3380	3160	139	117	75-125	7	20	M0
Molybdenum	ug/L	286	1000	1000	1360	1370	108	108	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242500 3242501

Parameter	Units	50330417002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	41.2	1000	1000	1050	1040	101	100	75-125	1	20	
Boron	ug/L	917	1000	1000	1930	1950	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	997	1010	100	101	75-125	1	20	
Calcium	ug/L	282000	10000	10000	286000	295000	39	122	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	970	985	97	98	75-125	2	20	
Lead	ug/L	ND	1000	1000	958	957	96	96	75-125	0	20	
Lithium	ug/L	1930	1000	1000	3020	3010	110	108	75-125	0	20	
Molybdenum	ug/L	308	1000	1000	1350	1360	104	105	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242502 3242503

Parameter	Units	50330418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	46.1	1000	1000	1050	1050	101	100	75-125	0	20	
Boron	ug/L	945	1000	1000	1950	1980	101	103	75-125	1	20	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	75-125	0	20	
Calcium	ug/L	289000	10000	10000	295000	296000	55	70	75-125	0	20	P6
Chromium	ug/L	ND	1000	1000	989	988	99	99	75-125	0	20	
Lead	ug/L	ND	1000	1000	966	963	97	96	75-125	0	20	
Lithium	ug/L	1980	1000	1000	3060	3080	108	110	75-125	1	20	
Molybdenum	ug/L	304	1000	1000	1350	1350	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 705497
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

METHOD BLANK: 3243079 Matrix: Water
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	11/12/22 01:34	
Arsenic	ug/L	ND	1.0	0.11	11/12/22 01:34	
Beryllium	ug/L	ND	0.20	0.033	11/12/22 01:34	
Cobalt	ug/L	ND	1.0	0.086	11/12/22 01:34	
Selenium	ug/L	ND	1.0	0.35	11/12/22 01:34	

LABORATORY CONTROL SAMPLE: 3243080

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.6	104	80-120	
Arsenic	ug/L	40	39.2	98	80-120	
Beryllium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Selenium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243081 3243082

Parameter	Units	50330418002 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	43.5	107	108	75-125	1	20	
Arsenic	ug/L	17.3	40	40	57.5	56.5	100	98	75-125	2	20	
Beryllium	ug/L	ND	40	40	43.2	43.2	108	108	75-125	0	20	
Cobalt	ug/L	2.6	40	40	40.7	41.8	95	98	75-125	3	20	
Selenium	ug/L	ND	40	40	42.1	43.2	104	107	75-125	3	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 P2R2
Pace Project No.: 50330420

QC Batch: 705716
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330420001

METHOD BLANK: 3244179 Matrix: Water
Associated Lab Samples: 50330420001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:14	

LABORATORY CONTROL SAMPLE: 3244180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	286	95	80-120	

SAMPLE DUPLICATE: 3244181

Parameter	Units	50330416002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1800	1790	0	10	

SAMPLE DUPLICATE: 3244182

Parameter	Units	50330417002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1770	1760	0	10	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 705718 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330420002, 50330420003, 50330420004

METHOD BLANK: 3244187 Matrix: Water
Associated Lab Samples: 50330420002, 50330420003, 50330420004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/11/22 08:25	

LABORATORY CONTROL SAMPLE: 3244188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	281	94	80-120	

SAMPLE DUPLICATE: 3244189

Parameter	Units	50330418002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1790	1680	6	10	

SAMPLE DUPLICATE: 3244190

Parameter	Units	50330458003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	649	659	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 705895
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: 50330420001, 50330420002, 50330420003, 50330420004

SAMPLE DUPLICATE: 3245137

Parameter	Units	50330418006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	2	H3

SAMPLE DUPLICATE: 3245138

Parameter	Units	50330493003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.2	1	2	H3

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-1 **Lab ID: 50330420001** Collected: 11/07/22 12:20 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.608 (1.26) C:NA T:93%**	pCi/L	11/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.831 ± 0.400 (0.682) C:82% T:82%**	pCi/L	11/30/22 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.831 ± 1.01 (1.94)**	pCi/L	12/01/22 14:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-10 **Lab ID: 50330420002** Collected: 11/07/22 14:15 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.162 ± 0.674 (1.29) C:NA T:92%**	pCi/L	11/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.900 ± 0.432 (0.743) C:79% T:83%**	pCi/L	11/30/22 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.06 ± 1.11 (2.03)**	pCi/L	12/01/22 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-11 **Lab ID: 50330420003** Collected: 11/07/22 16:10 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.46 ± 1.15 (1.35) C:NA T:95%**	pCi/L	11/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.55 ± 0.908 (1.26) C:77% T:85%**	pCi/L	11/30/22 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.01 ± 2.06 (2.61)**	pCi/L	12/01/22 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

Sample: MW-12 **Lab ID: 50330420004** Collected: 11/07/22 17:05 Received: 11/08/22 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.340 (0.548) C:NA T:98%**	pCi/L	11/29/22 14:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.290 ± 0.272 (0.549) C:80% T:91%**	pCi/L	11/30/22 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.290 ± 0.612 (1.10)**	pCi/L	12/01/22 14:22	7440-14-4	

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 546151
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: 50330420001, 50330420002, 50330420003, 50330420004

METHOD BLANK: 2652153 Matrix: Water
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.893 ± 0.407 (0.679) C:76% T:91%	pCi/L	11/30/22 11:42	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330420

QC Batch: 546149
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: 50330420001, 50330420002, 50330420003, 50330420004

METHOD BLANK: 2652150 Matrix: Water
Associated Lab Samples: 50330420001, 50330420002, 50330420003, 50330420004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.189 ± 0.288 (0.463) C:NA T:96%	pCi/L	11/29/22 14:32	

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(317)228-3100

QUALIFIERS

Project: Petersburg P2R2
Pace Project No.: 50330420

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.

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R2
Pace Project No.: 50330420

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330420001	**MW-1**	EPA 9056	705749		
50330420002	**MW-10**	EPA 9056	705749		
50330420003	**MW-11**	EPA 9056	705749		
50330420004	**MW-12**	EPA 9056	705749		
50330420001	**MW-1**	EPA 3010	705377	EPA 6010	707303
50330420002	**MW-10**	EPA 3010	705377	EPA 6010	707303
50330420003	**MW-11**	EPA 3010	705377	EPA 6010	707303
50330420004	**MW-12**	EPA 3010	705377	EPA 6010	707303
50330420001	**MW-1**	EPA 200.2	705497	EPA 6020	705698
50330420002	**MW-10**	EPA 200.2	705497	EPA 6020	705698
50330420003	**MW-11**	EPA 200.2	705497	EPA 6020	705698
50330420004	**MW-12**	EPA 200.2	705497	EPA 6020	705698
50330420001	**MW-1**	EPA 903.1	546149		
50330420002	**MW-10**	EPA 903.1	546149		
50330420003	**MW-11**	EPA 903.1	546149		
50330420004	**MW-12**	EPA 903.1	546149		
50330420001	**MW-1**	EPA 904.0	546151		
50330420002	**MW-10**	EPA 904.0	546151		
50330420003	**MW-11**	EPA 904.0	546151		
50330420004	**MW-12**	EPA 904.0	546151		
50330420001	**MW-1**	Total Radium Calculation	550751		
50330420002	**MW-10**	Total Radium Calculation	550751		
50330420003	**MW-11**	Total Radium Calculation	550751		
50330420004	**MW-12**	Total Radium Calculation	550751		
50330420001	**MW-1**	SM 2540C	705716		
50330420002	**MW-10**	SM 2540C	705718		
50330420003	**MW-11**	SM 2540C	705718		
50330420004	**MW-12**	SM 2540C	705718		
50330420001	**MW-1**	SM 4500-H+B	705895		
50330420002	**MW-10**	SM 4500-H+B	705895		
50330420003	**MW-11**	SM 4500-H+B	705895		
50330420004	**MW-12**	SM 4500-H+B	705895		

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CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50330420

50330420

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 Seda
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 P2R2	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/27

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	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-1					11-7-22	1220		5	X		X							X	X	X	X		001
2	MW-10					11-7-22	1415		5	X		X							X	X	X	X		002
3	MW-11					11-7-22	1610		5	X		X							X	X	X	X		003
4	MW-12					11-7-22	1705		5	X		X							X	X	X	X		004
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li		11-8-22	0819		11/8/22	0819	
6020: Be,Co,Cu,Zn,As,Se		11/8/22	1100		11/8/22	1100	SEE SCA

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)

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MH 11/8/22 1430

1. **Courier:** ☐ FED EX ☐ UPS ☒ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____
2. **Custody Seal on Cooler/Box Present:** ☒ Yes ☐ No
   (If yes)Seals Intact: ☒ Yes ☐ No **(leave blank if no seals were present)**
3. **Thermometer:** 1 2 3 4 5 6 A B C D E F
4. **Cooler Temperature(s):** 1.8/1.8 | 1.7/1.7 | 1.2/1.2 | 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?			✓
	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: 1.9/1.9 1.5/1.5 1.9/1.9 1.7/1.7 1.6/1.6 1.9/1.9 1.4/1.4 2.2/2.2

COC PAGE ____ of ____

Sample Container Count

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

		VIALS						AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		MeOH (only)																											Red	Yellow	Green	Black
COC Line Item	WGFU	SBS	DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
		DI																														
		R																														
1																	2		2	1									✓				
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P3R2
Pace Project No.: 50330526

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R2
Pace Project No.: 50330526

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P3R2
Pace Project No.: 50330526

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330526001	**MW-13**	Water	11/08/22 13:25	11/09/22 10:52

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R2
Pace Project No.: 50330526

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330526001	**MW-13**	EPA 9056	ADM	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6010	DJS	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R2
Pace Project No.: 50330526

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330526001	**MW-13**					
EPA 9056	Chloride	11.8	mg/L	0.25	11/13/22 04:05	
EPA 9056	Fluoride	0.75	mg/L	0.10	11/13/22 04:05	
EPA 9056	Sulfate	1400	mg/L	25.0	11/13/22 04:22	
EPA 6010	Magnesium	22100	ug/L	1000	11/22/22 08:41	
EPA 6010	Potassium	20700	ug/L	1000	11/22/22 08:41	
EPA 6010	Silica	15400	ug/L	450	11/22/22 08:41	N2
EPA 6010	Sodium	28400	ug/L	1000	11/22/22 08:41	
EPA 6010	Molybdenum, Dissolved	68.6	ug/L	10.0	11/22/22 12:07	
SM 2320B	Alkalinity, Total as CaCO3	197	mg/L	10.0	11/10/22 12:33	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	197	mg/L	10.0	11/10/22 12:33	
SM 2540C	Total Dissolved Solids	2340	mg/L	40.0	11/14/22 08:10	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	11/11/22 18:31	H3
EPA 353.2	Nitrogen, Nitrate	0.20	mg/L	0.10	11/09/22 14:07	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	11/26/22 21:05	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	11/28/22 19:36	

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330526

Sample: MW-13 **Lab ID: 50330526001** Collected: 11/08/22 13:25 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**11.8**	mg/L	0.25	0.067	1		11/13/22 04:05	16887-00-6	
Fluoride	**0.75**	mg/L	0.10	0.017	1		11/13/22 04:05	16984-48-8	
Sulfate	**1400**	mg/L	25.0	8.5	100		11/13/22 04:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/18/22 10:21	11/22/22 08:41	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/18/22 10:21	11/22/22 08:41	7439-89-6	
Magnesium	**22100**	ug/L	1000	71.8	1	11/18/22 10:21	11/22/22 08:41	7439-95-4	
Manganese	ND	ug/L	10.0	2.5	1	11/18/22 10:21	11/22/22 08:41	7439-96-5	
Potassium	**20700**	ug/L	1000	281	1	11/18/22 10:21	11/22/22 08:41	7440-09-7	
Silica	**15400**	ug/L	450		1	11/18/22 10:21	11/22/22 08:41	7631-86-9	N2
Sodium	**28400**	ug/L	1000	214	1	11/18/22 10:21	11/22/22 08:41	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/19/22 13:39	11/22/22 12:07	7439-89-6	
Manganese, Dissolved	ND	ug/L	10.0	5.4	1	11/19/22 13:39	11/22/22 12:07	7439-96-5	
Molybdenum, Dissolved	**68.6**	ug/L	10.0	2.0	1	11/19/22 13:39	11/22/22 12:07	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**197**	mg/L	10.0	10.0	1		11/10/22 12:33		
Alkalinity,Bicarbonate (CaCO3)	**197**	mg/L	10.0	10.0	1		11/10/22 12:33		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/10/22 12:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2340**	mg/L	40.0	40.0	1		11/14/22 08:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		11/11/22 18:31		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 11:47	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 21:14	15438-31-0	H3,N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50330526

Sample: MW-13 **Lab ID: 50330526001** Collected: 11/08/22 13:25 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**0.20**	mg/L	0.10	0.011	1		11/09/22 14:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/09/22 14:07	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	0.15	1	11/11/22 10:30	11/15/22 16:46		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.3**	mg/L	1.0	0.14	1		11/26/22 21:05	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.3**	mg/L	1.0	0.14	1		11/28/22 19:36		

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 706020
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330526001

METHOD BLANK: 3246034 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:02	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:02	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:02	

LABORATORY CONTROL SAMPLE: 3246035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	94	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246036 3246037

Parameter	Units	50330899002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	139	125	125	258	259	95	96	80-120	0	15	
Fluoride	mg/L	0.15	0.5	0.5	0.61	0.61	93	93	80-120	0	15	
Sulfate	mg/L	37.2	25	25	59.4	59.3	89	88	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705385
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330526001

METHOD BLANK: 3242540 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/21/22 14:46	
Iron	ug/L	ND	100	48.8	11/21/22 14:46	
Magnesium	ug/L	ND	1000	71.8	11/21/22 14:46	
Manganese	ug/L	ND	10.0	2.5	11/21/22 14:46	
Potassium	ug/L	ND	1000	281	11/21/22 14:46	
Silica	ug/L	ND	450		11/21/22 14:46	N2
Sodium	ug/L	ND	1000	214	11/21/22 14:46	

LABORATORY CONTROL SAMPLE: 3242541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9840	98	80-120	
Iron	ug/L	10000	9980	100	80-120	
Magnesium	ug/L	10000	9910	99	80-120	
Manganese	ug/L	1000	986	99	80-120	
Potassium	ug/L	10000	10600	106	80-120	
Silica	ug/L	10700	10100	95	80-120	N2
Sodium	ug/L	10000	10200	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242542 3242543

Parameter	Units	50330517005 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	10200	10500	101	104	75-125	3	20	
Iron	ug/L	1740	10000	10000	11700	11900	100	102	75-125	2	20	
Magnesium	ug/L	23.0 mg/L	10000	10000	33600	34000	106	110	75-125	1	20	
Manganese	ug/L	9440	1000	1000	10600	10600	119	121	75-125	0	20	
Potassium	ug/L	4.6 mg/L	10000	10000	15600	16000	110	114	75-125	3	20	
Silica	ug/L	26.3 mg/L	10700	10700	38600	38700	115	116	75-125	0	20	N2
Sodium	ug/L	54.8 mg/L	10000	10000	66200	68100	114	133	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 706279
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3246867 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/22/22 11:27	
Manganese, Dissolved	ug/L	ND	10.0	5.4	11/22/22 11:27	
Molybdenum, Dissolved	ug/L	ND	10.0	2.0	11/22/22 11:27	

LABORATORY CONTROL SAMPLE: 3246868

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9870	99	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246869 3246870

Parameter	Units	50330517002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	2550	10000	10000	12500	12500	100	100	75-125	0	20	
Manganese, Dissolved	ug/L	84.5	1000	1000	1100	1100	102	101	75-125	0	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1030	1040	103	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705315
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3242243 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/10/22 12:33	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 12:33	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 12:33	

LABORATORY CONTROL SAMPLE: 3242244

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: 3242245

Parameter	Units	50330521009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	477	486	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	477	486	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3242246

Parameter	Units	50330366001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	196	200	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	196	200	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 706095
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3246232 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/14/22 08:05	

LABORATORY CONTROL SAMPLE: 3246233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	80-120	

SAMPLE DUPLICATE: 3246234

Parameter	Units	50330503007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	547	543	1	10	

SAMPLE DUPLICATE: 3246235

Parameter	Units	50330522001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	743	735	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705945
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: 50330526001

SAMPLE DUPLICATE: 3245478

Parameter	Units	50330493006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3245479

Parameter	Units	50330533001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705988
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: 50330526001

METHOD BLANK: 3245799 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/12/22 11:47	

LABORATORY CONTROL SAMPLE: 3245800

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245801 3245802

Parameter	Units	50330416002 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	0.34	0.39	68	79	90-110	15	20	M3

MATRIX SPIKE SAMPLE: 3245803

Parameter	Units	50330461002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.53	104	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705427
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3242755 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 21:06	H3,N2

LABORATORY CONTROL SAMPLE: 3242756

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: 3242757 3242758

Parameter	Units	50329778002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	0.94	0.98	94	98	90-110	5	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242759 3242760

Parameter	Units	50330585002 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	2.3	12.5	12.5	14.5	14.5	97	98	90-110	0	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 705203
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: 50330526001

METHOD BLANK: 3241724 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/09/22 13:17	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/09/22 13:17	

LABORATORY CONTROL SAMPLE: 3241725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241726 3241727

Parameter	Units	50330502004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.92	0.91	92	91	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	99	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3241728

Parameter	Units	50330501008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.95	95	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	101	90-110	

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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 P3R2
Pace Project No.: 50330526

QC Batch: 705727
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: 50330526001

METHOD BLANK: 3244231 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/15/22 16:34	

LABORATORY CONTROL SAMPLE: 3244232

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244233 3244234

Parameter	Units	50330495002 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			9.2	9.1				1		

MATRIX SPIKE SAMPLE: 3244235

Parameter	Units	50330540001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 707808
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3253676 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/26/22 13:59	

LABORATORY CONTROL SAMPLE: 3253677

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: 3253678 3253679

Parameter	Units	50330493011 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	12.1	12.2	99	100	80-120	1	20	

MATRIX SPIKE SAMPLE: 3253680

Parameter	Units	50330493013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	9.8	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50330526

QC Batch: 708108
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330526001

METHOD BLANK: 3255181 Matrix: Water
Associated Lab Samples: 50330526001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/28/22 14:33	

LABORATORY CONTROL SAMPLE: 3255182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE SAMPLE: 3255183

Parameter	Units	50330585001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.8	10	11.5	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3255184 3255185

Parameter	Units	50330585002 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	40	40	40.3	40.5	97	97	80-120	1	20	

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QUALIFIERS

Project: Petersburg P3R2
Pace Project No.: 50330526

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.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R2
Pace Project No.: 50330526

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330526001	**MW-13**	EPA 9056	706020		
50330526001	**MW-13**	EPA 3010	705385	EPA 6010	707587
50330526001	**MW-13**	EPA 3010	706279	EPA 6010	707775
50330526001	**MW-13**	SM 2320B	705315		
50330526001	**MW-13**	SM 2540C	706095		
50330526001	**MW-13**	SM 4500-H+B	705945		
50330526001	**MW-13**	SM 4500-S2-D	705988		
50330526001	**MW-13**	HACH 8146	705427		
50330526001	**MW-13**	EPA 353.2	705203		
50330526001	**MW-13**	EPA 365.1	705727	EPA 365.1	706562
50330526001	**MW-13**	SM 5310C	707808		
50330526001	**MW-13**	SM 5310C	708108		

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CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields r

WO# : 50330526

50330526

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 Seda
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 P3R2	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

Regulatory Agency	
State / Location	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered** (Y)	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C (Y)	Sulfide	Phosphate	Residual Chlorine (Y/N)
1	MW-13					11-8-22	1325		9	X	X	X		X					X	X	X	X	X	X	X	X	
2										X	X	X		X					X	X	X	X	X	X	X	X	
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (k, Na, Mg, Mn)	Chris Burden	11-9-22	0825		11/9/22	0825				
		11/9/22	1152	Pace	11/9/22	1152	0.7	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							0.1	Y	Y	Y
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:	DATE Signed:	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 11/9/22 1130 IL

1. **Courier:** ☑ FED EX ☐ UPS ☐ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____
2. **Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No
   (If yes)Seals Intact: ☑ Yes ☐ No **(leave blank if no seals were present)**
3. **Thermometer:** 1 2 3 4 5 6 A B C (D) E F
4. **Cooler Temperature(s):** 0.1/0.1 | 0.1/0.1 | | | **(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: NO2/NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 12:20			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
COC Line Item	WGFU	DI	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1				1	2	1	1	1		1					WT	✓	✓		✓
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P3R1
Pace Project No.: 50330527

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R1
Pace Project No.: 50330527

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Petersburg P3R1
Pace Project No.: 50330527

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330527001	**MW-4C**	Water	11/08/22 14:35	11/09/22 10:52

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50330527

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330527001	**MW-4C**	EPA 9056	ADM	3	PASI-I
		EPA 6010	RAM	7	PASI-I
		EPA 6010	DJS	3	PASI-I
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R1
Pace Project No.: 50330527

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330527001	**MW-4C**					
EPA 9056	Chloride	49.2	mg/L	2.5	11/13/22 04:55	
EPA 9056	Fluoride	0.17	mg/L	0.10	11/13/22 04:38	
EPA 9056	Sulfate	1380	mg/L	25.0	11/13/22 05:11	
EPA 6010	Magnesium	49900	ug/L	1000	11/22/22 08:44	
EPA 6010	Manganese	2040	ug/L	10.0	11/22/22 08:44	
EPA 6010	Potassium	61800	ug/L	1000	11/22/22 08:44	
EPA 6010	Silica	19100	ug/L	450	11/22/22 08:44	N2
EPA 6010	Sodium	80800	ug/L	1000	11/22/22 08:44	
EPA 6010	Manganese, Dissolved	2240	ug/L	10.0	11/22/22 12:10	
SM 2320B	Alkalinity, Total as CaCO3	420	mg/L	10.0	11/10/22 12:33	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	420	mg/L	10.0	11/10/22 12:33	
SM 2540C	Total Dissolved Solids	2480	mg/L	40.0	11/14/22 08:10	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 18:33	H3
SM 5310C	Total Organic Carbon	2.4	mg/L	1.0	11/26/22 21:25	
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	11/28/22 20:02	

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330527

Sample: MW-4C **Lab ID: 50330527001** Collected: 11/08/22 14:35 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**49.2**	mg/L	2.5	0.67	10		11/13/22 04:55	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	0.017	1		11/13/22 04:38	16984-48-8	
Sulfate	**1380**	mg/L	25.0	8.5	100		11/13/22 05:11	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	11/18/22 10:21	11/22/22 08:44	7429-90-5	
Iron	ND	ug/L	100	48.8	1	11/18/22 10:21	11/22/22 08:44	7439-89-6	
Magnesium	**49900**	ug/L	1000	71.8	1	11/18/22 10:21	11/22/22 08:44	7439-95-4	
Manganese	**2040**	ug/L	10.0	2.5	1	11/18/22 10:21	11/22/22 08:44	7439-96-5	
Potassium	**61800**	ug/L	1000	281	1	11/18/22 10:21	11/22/22 08:44	7440-09-7	
Silica	**19100**	ug/L	450		1	11/18/22 10:21	11/22/22 08:44	7631-86-9	N2
Sodium	**80800**	ug/L	1000	214	1	11/18/22 10:21	11/22/22 08:44	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	11/19/22 13:39	11/22/22 12:10	7439-89-6	
Manganese, Dissolved	**2240**	ug/L	10.0	5.4	1	11/19/22 13:39	11/22/22 12:10	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	2.0	1	11/19/22 13:39	11/22/22 12:10	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**420**	mg/L	10.0	10.0	1		11/10/22 12:33		
Alkalinity,Bicarbonate (CaCO3)	**420**	mg/L	10.0	10.0	1		11/10/22 12:33		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/10/22 12:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2480**	mg/L	40.0	40.0	1		11/14/22 08:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 18:33		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		11/12/22 12:33	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/09/22 21:14	15438-31-0	H3,N2

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50330527

Sample: MW-4C **Lab ID: 50330527001** Collected: 11/08/22 14:35 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/09/22 14:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/09/22 14:09	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	0.15	1	11/11/22 10:30	11/15/22 16:47		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.4**	mg/L	1.0	0.14	1		11/26/22 21:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.7**	mg/L	1.0	0.14	1		11/28/22 20:02		

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 706020
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330527001

METHOD BLANK: 3246034 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:02	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:02	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:02	

LABORATORY CONTROL SAMPLE: 3246035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	94	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246036 3246037

Parameter	Units	50330899002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	139	125	125	258	259	95	96	80-120	0	15	
Fluoride	mg/L	0.15	0.5	0.5	0.61	0.61	93	93	80-120	0	15	
Sulfate	mg/L	37.2	25	25	59.4	59.3	89	88	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705385
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330527001

METHOD BLANK: 3242540 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	11/21/22 14:46	
Iron	ug/L	ND	100	48.8	11/21/22 14:46	
Magnesium	ug/L	ND	1000	71.8	11/21/22 14:46	
Manganese	ug/L	ND	10.0	2.5	11/21/22 14:46	
Potassium	ug/L	ND	1000	281	11/21/22 14:46	
Silica	ug/L	ND	450		11/21/22 14:46	N2
Sodium	ug/L	ND	1000	214	11/21/22 14:46	

LABORATORY CONTROL SAMPLE: 3242541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9840	98	80-120	
Iron	ug/L	10000	9980	100	80-120	
Magnesium	ug/L	10000	9910	99	80-120	
Manganese	ug/L	1000	986	99	80-120	
Potassium	ug/L	10000	10600	106	80-120	
Silica	ug/L	10700	10100	95	80-120	N2
Sodium	ug/L	10000	10200	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242542 3242543

Parameter	Units	50330517005 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	10200	10500	101	104	75-125	3	20	
Iron	ug/L	1740	10000	10000	11700	11900	100	102	75-125	2	20	
Magnesium	ug/L	23.0 mg/L	10000	10000	33600	34000	106	110	75-125	1	20	
Manganese	ug/L	9440	1000	1000	10600	10600	119	121	75-125	0	20	
Potassium	ug/L	4.6 mg/L	10000	10000	15600	16000	110	114	75-125	3	20	
Silica	ug/L	26.3 mg/L	10700	10700	38600	38700	115	116	75-125	0	20	N2
Sodium	ug/L	54.8 mg/L	10000	10000	66200	68100	114	133	75-125	3	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 706279
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330527001

METHOD BLANK: 3246867 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	11/22/22 11:27	
Manganese, Dissolved	ug/L	ND	10.0	5.4	11/22/22 11:27	
Molybdenum, Dissolved	ug/L	ND	10.0	2.0	11/22/22 11:27	

LABORATORY CONTROL SAMPLE: 3246868

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9870	99	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	
Molybdenum, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246869 3246870

Parameter	Units	50330517002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	2550	10000	10000	12500	12500	100	100	75-125	0	20	
Manganese, Dissolved	ug/L	84.5	1000	1000	1100	1100	102	101	75-125	0	20	
Molybdenum, Dissolved	ug/L	<0.050 mg/L	1000	1000	1030	1040	103	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705315
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330527001

METHOD BLANK: 3242243 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/10/22 12:33	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 12:33	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/10/22 12:33	

LABORATORY CONTROL SAMPLE: 3242244

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: 3242245

Parameter	Units	50330521009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	477	486	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	477	486	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3242246

Parameter	Units	50330366001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	196	200	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	196	200	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 706095
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330527001

METHOD BLANK: 3246232 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/14/22 08:05	

LABORATORY CONTROL SAMPLE: 3246233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	80-120	

SAMPLE DUPLICATE: 3246234

Parameter	Units	50330503007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	547	543	1	10	

SAMPLE DUPLICATE: 3246235

Parameter	Units	50330522001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	743	735	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705945
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: 50330527001

SAMPLE DUPLICATE: 3245478

Parameter	Units	50330493006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3245479

Parameter	Units	50330533001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705989
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: 50330527001

METHOD BLANK: 3245804 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/12/22 12:33	

LABORATORY CONTROL SAMPLE: 3245805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3245806 3245807

Parameter	Units	50330493003 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	0.40	0.38	80	76	90-110	5	20	M3

MATRIX SPIKE SAMPLE: 3245808

Parameter	Units	50330580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	99	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705427
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330527001

METHOD BLANK: 3242755 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/09/22 21:06	H3,N2

LABORATORY CONTROL SAMPLE: 3242756

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: 3242757 3242758

Parameter	Units	50329778002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	0.94	0.98	94	98	90-110	5	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242759 3242760

Parameter	Units	50330585002 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	2.3	12.5	12.5	14.5	14.5	97	98	90-110	0	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705203
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: 50330527001

METHOD BLANK: 3241724 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/09/22 13:17	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/09/22 13:17	

LABORATORY CONTROL SAMPLE: 3241725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3241726 3241727

Parameter	Units	50330502004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.92	0.91	92	91	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	99	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3241728

Parameter	Units	50330501008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.95	95	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	101	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 705727
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: 50330527001

METHOD BLANK: 3244231 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/15/22 16:34	

LABORATORY CONTROL SAMPLE: 3244232

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244233 3244234

Parameter	Units	50330495002 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			9.2	9.1				1		

MATRIX SPIKE SAMPLE: 3244235

Parameter	Units	50330540001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 707808
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330527001

METHOD BLANK: 3253676 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	11/26/22 13:59	

LABORATORY CONTROL SAMPLE: 3253677

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: 3253678 3253679

Parameter	Units	50330493011 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	12.1	12.2	99	100	80-120	1	20	

MATRIX SPIKE SAMPLE: 3253680

Parameter	Units	50330493013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	9.8	98	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50330527

QC Batch: 708108
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330527001

METHOD BLANK: 3255181 Matrix: Water
Associated Lab Samples: 50330527001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	11/28/22 14:33	

LABORATORY CONTROL SAMPLE: 3255182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	9.8	98	90-110	

MATRIX SPIKE SAMPLE: 3255183

Parameter	Units	50330585001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.8	10	11.5	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3255184 3255185

Parameter	Units	50330585002 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	40	40	40.3	40.5	97	97	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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Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: Petersburg P3R1
Pace Project No.: 50330527

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.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R1
Pace Project No.: 50330527

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330527001	**MW-4C**	EPA 9056	706020		
50330527001	**MW-4C**	EPA 3010	705385	EPA 6010	707587
50330527001	**MW-4C**	EPA 3010	706279	EPA 6010	707775
50330527001	**MW-4C**	SM 2320B	705315		
50330527001	**MW-4C**	SM 2540C	706095		
50330527001	**MW-4C**	SM 4500-H+B	705945		
50330527001	**MW-4C**	SM 4500-S2-D	705989		
50330527001	**MW-4C**	HACH 8146	705427		
50330527001	**MW-4C**	EPA 353.2	705203		
50330527001	**MW-4C**	EPA 365.1	705727	EPA 365.1	706562
50330527001	**MW-4C**	SM 5310C	707808		
50330527001	**MW-4C**	SM 5310C	708108		

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Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50330527

50330527

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 P3R1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/31

Regulatory Agency	
State / Location	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate					Residual Chlorine (Y/N)	
																		Requested Analysis Filtered (Y/N)				Y			Y								
1	MW-4C					11-8	1435		9	X	X	X		X					X	X	X	X	X	X	X	X	X					
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (k, Na, Mg, Mn)	Chris Burba	11-9-22	0825		11/9/22	0825				
		11/9/22	1152	AR/Pace	11/9/22	1152	0.7	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							0.1	Y	Y	Y
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER:	DATE Signed:					

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 11/9/22 1130 IL

1. Courier: 11/11/9 ☐ 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): 0.7/0.7 | 0.1/0.1 | | |

(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: NO_2/NO_3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 12:20		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
COC Line Item	WGFU	DI	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1				1	2	1	1	1		1					WT	✓	✓		✓
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P2R2
Pace Project No.: 50330530

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P2R2
Pace Project No.: 50330530

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P2R2
Pace Project No.: 50330530

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330530001	**MW-13**	Water	11/08/22 13:25	11/09/22 10:52

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R2
Pace Project No.: 50330530

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330530001	**MW-13**	EPA 9056	ADM	3	PASI-I
		EPA 6010	RAM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P2R2
Pace Project No.: 50330530

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330530001	**MW-13**					
EPA 9056	Chloride	12.0	mg/L	2.5	11/17/22 15:49	
EPA 9056	Fluoride	0.76	mg/L	0.10	11/13/22 05:27	
EPA 9056	Sulfate	1400	mg/L	25.0	11/20/22 05:25	
EPA 6010	Barium	22.2	ug/L	10.0	11/22/22 08:46	
EPA 6010	Boron	2520	ug/L	100	11/22/22 08:46	
EPA 6010	Calcium	586000	ug/L	10000	11/22/22 09:04	
EPA 6010	Lithium	385	ug/L	20.0	11/22/22 08:46	
EPA 6010	Molybdenum	65.2	ug/L	10.0	11/22/22 08:46	
EPA 6020	Selenium	8.6	ug/L	1.0	11/14/22 22:52	
EPA 903.1	Radium-226	-0.223 ± 0.386 (0.974) C:NA T:94%	pCi/L		12/03/22 16:57	
EPA 904.0	Radium-228	0.428 ± 0.269 (0.493) C:82% T:100%	pCi/L		12/05/22 12:10	
Total Radium Calculation	Total Radium	0.428 ± 0.655 (1.47)	pCi/L		12/06/22 11:23	
SM 2540C	Total Dissolved Solids	2290	mg/L	40.0	11/14/22 08:11	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 18:34	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50330530

Sample: MW-13 **Lab ID: 50330530001** Collected: 11/08/22 13:25 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**12.0**	mg/L	2.5	0.67	10		11/17/22 15:49	16887-00-6	
Fluoride	**0.76**	mg/L	0.10	0.017	1		11/13/22 05:27	16984-48-8	
Sulfate	**1400**	mg/L	25.0	8.5	100		11/20/22 05:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**22.2**	ug/L	10.0	2.1	1	11/18/22 10:21	11/22/22 08:46	7440-39-3	
Boron	**2520**	ug/L	100	37.6	1	11/18/22 10:21	11/22/22 08:46	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/18/22 10:21	11/22/22 08:46	7440-43-9	
Calcium	**586000**	ug/L	10000	1630	10	11/18/22 10:21	11/22/22 09:04	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/18/22 10:21	11/22/22 08:46	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/18/22 10:21	11/22/22 08:46	7439-92-1	
Lithium	**385**	ug/L	20.0	6.2	1	11/18/22 10:21	11/22/22 08:46	7439-93-2	
Molybdenum	**65.2**	ug/L	10.0	3.7	1	11/18/22 10:21	11/22/22 08:46	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/12/22 10:50	11/14/22 22:52	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/12/22 10:50	11/14/22 22:52	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/12/22 10:50	11/14/22 22:52	7440-41-7	
Cobalt	ND	ug/L	1.0	0.086	1	11/12/22 10:50	11/14/22 22:52	7440-48-4	
Selenium	**8.6**	ug/L	1.0	0.35	1	11/12/22 10:50	11/14/22 22:52	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2290**	mg/L	40.0	40.0	1		11/14/22 08:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 18:34		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 706020
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330530001

METHOD BLANK: 3246034 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:02	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:02	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:02	

LABORATORY CONTROL SAMPLE: 3246035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	94	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246036 3246037

Parameter	Units	50330899002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	139	125	125	258	259	95	96	80-120	0	15	
Fluoride	mg/L	0.15	0.5	0.5	0.61	0.61	93	93	80-120	0	15	
Sulfate	mg/L	37.2	25	25	59.4	59.3	89	88	80-120	0	15	

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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
Pace Project No.: 50330530

QC Batch: 705385
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330530001

METHOD BLANK: 3242540 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/21/22 14:46	
Boron	ug/L	ND	100	37.6	11/21/22 14:46	
Cadmium	ug/L	ND	2.0	0.66	11/21/22 14:46	
Calcium	ug/L	ND	1000	163	11/21/22 14:46	
Chromium	ug/L	ND	10.0	0.97	11/21/22 14:46	
Lead	ug/L	ND	10.0	2.6	11/21/22 14:46	
Lithium	ug/L	ND	20.0	6.2	11/21/22 14:46	
Molybdenum	ug/L	ND	10.0	3.7	11/21/22 14:46	

LABORATORY CONTROL SAMPLE: 3242541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1080	108	80-120	
Boron	ug/L	1000	1000	100	80-120	
Cadmium	ug/L	1000	998	100	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1000	100	80-120	
Lead	ug/L	1000	1020	102	80-120	
Lithium	ug/L	1000	1060	106	80-120	
Molybdenum	ug/L	1000	1070	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242542 3242543

Parameter	Units	50330517005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<0.10 mg/L	1000	1000	1080	1110	105	108	75-125	3	20	
Boron	ug/L	<0.30 mg/L	1000	1000	1150	1170	102	105	75-125	2	20	
Cadmium	ug/L	<0.0020 mg/L	1000	1000	1000	1030	100	103	75-125	3	20	
Calcium	ug/L	55.7 mg/L	10000	10000	67400	67400	117	117	75-125	0	20	
Chromium	ug/L	<0.010 mg/L	1000	1000	984	1020	98	102	75-125	4	20	
Lead	ug/L	<0.010 mg/L	1000	1000	999	1020	100	102	75-125	2	20	
Lithium	ug/L	<0.010 mg/L	1000	1000	1070	1100	106	110	75-125	3	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330530

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242542 3242543

Parameter	Units	50330517005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	<0.050 mg/L	1000	1000	1060	1090	106	109	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 705766
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330530001

METHOD BLANK: 3244390 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	11/14/22 22:16	
Arsenic	ug/L	ND	1.0	0.11	11/14/22 22:16	
Beryllium	ug/L	ND	0.20	0.033	11/14/22 22:16	
Cobalt	ug/L	ND	1.0	0.086	11/14/22 22:16	
Selenium	ug/L	ND	1.0	0.35	11/14/22 22:16	

LABORATORY CONTROL SAMPLE: 3244391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	102	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Beryllium	ug/L	40	40.0	100	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Selenium	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244392 3244393

Parameter	Units	50330517006 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	42.8	42.5	107	106	75-125	1	20	
Arsenic	ug/L	<5.0	40	40	40.7	40.4	98	97	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	42.0	41.9	105	105	75-125	0	20	
Cobalt	ug/L	<1.0	40	40	39.3	39.6	98	99	75-125	1	20	
Selenium	ug/L	<5.0	40	40	40.0	41.4	100	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 706095
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330530001

METHOD BLANK: 3246232 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/14/22 08:05	

LABORATORY CONTROL SAMPLE: 3246233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	80-120	

SAMPLE DUPLICATE: 3246234

Parameter	Units	50330503007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	547	543	1	10	

SAMPLE DUPLICATE: 3246235

Parameter	Units	50330522001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	743	735	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 705945
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: 50330530001

SAMPLE DUPLICATE: 3245478

Parameter	Units	50330493006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3245479

Parameter	Units	50330533001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330530

Sample: MW-13 **Lab ID: 50330530001** Collected: 11/08/22 13:25 Received: 11/09/22 10:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.223 ± 0.386 (0.974) C:NA T:94%**	pCi/L	12/03/22 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.428 ± 0.269 (0.493) C:82% T:100%**	pCi/L	12/05/22 12:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.428 ± 0.655 (1.47)**	pCi/L	12/06/22 11:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 546810
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: 50330530001

METHOD BLANK: 2655770 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.777 ± 0.329 (0.509) C:80% T:97%	pCi/L	12/05/22 12:10	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50330530

QC Batch: 546809
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: 50330530001

METHOD BLANK: 2655768 Matrix: Water
Associated Lab Samples: 50330530001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.156 ± 0.238 (0.383) C:NA T:92%	pCi/L	12/03/22 15:48	

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QUALIFIERS

Project: Petersburg P2R2
Pace Project No.: 50330530

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.

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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R2
Pace Project No.: 50330530

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330530001	**MW-13**	EPA 9056	706020		
50330530001	**MW-13**	EPA 3010	705385	EPA 6010	707587
50330530001	**MW-13**	EPA 200.2	705766	EPA 6020	706054
50330530001	**MW-13**	EPA 903.1	546809		
50330530001	**MW-13**	EPA 904.0	546810		
50330530001	**MW-13**	Total Radium Calculation	551632		
50330530001	**MW-13**	SM 2540C	706095		
50330530001	**MW-13**	SM 4500-H+B	705945		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request F

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50330530

50330530

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 Seda	Regulatory Agency
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 P2R2	Pace Project Manager:	Hayden Putt	State / Location
Requested Due Date:		Project #:		Pace Profile #:	10498/27	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW-13					11.8.22	1325		5	X		X							X	X	X	X	
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li	Chris Bulo	11-9-22	0825		11/9/22	0825				
6020: Be,Co,Cu,Zn,As,Se		11/9/22	1152	Pace	11/9/22	1152	0.7	Y	Y	Y
							0.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	DATE Signed:				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 11/9/22 1130 IL

1. **Courier:** ☐ FED EX ☐ UPS ☑ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____
2. **Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No
   (If yes)Seals Intact: ☑ Yes ☐ No **(leave blank if no seals were present)**
3. **Thermometer:** 1 2 3 4 5 6 A B C (D) E F
4. **Cooler Temperature(s):** 0.1/0.1 | 0.1/0.1 | | |
   (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.**	✓		
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 1

Sample Container Count

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

		VIALS						AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		MeOH (only)																											Red	Yellow	Green	Black
COC Line Item	WGFU	SBS	DI	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																		2		2	1								WT	✓			
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

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

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

January 25, 2023

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

RE: Project: Petersburg P2R1
Pace Project No.: 50330533

Dear Mr. Breting:

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

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: Petersburg P2R1
Pace Project No.: 50330533

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P2R1
Pace Project No.: 50330533

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50330533001	**MW-4C**	Water	11/08/22 14:35	11/09/22 10:52

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R1
Pace Project No.: 50330533

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50330533001	**MW-4C**	EPA 9056	ADM	3	PASI-I
		EPA 6010	RAM	8	PASI-I
		EPA 6020	CAW	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50330533

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50330533001	**MW-4C**					
EPA 9056	Chloride	39.6	mg/L	2.5	11/13/22 08:12	
EPA 9056	Fluoride	0.19	mg/L	0.10	11/13/22 07:55	
EPA 9056	Sulfate	1360	mg/L	25.0	11/13/22 08:28	
EPA 6010	Barium	32.6	ug/L	10.0	11/21/22 14:44	
EPA 6010	Boron	3960	ug/L	100	11/21/22 14:44	
EPA 6010	Calcium	600000	ug/L	10000	11/22/22 08:26	
EPA 6010	Lithium	411	ug/L	20.0	11/21/22 14:44	
EPA 6020	Cobalt	1.1	ug/L	1.0	11/14/22 23:12	
EPA 903.1	Radium-226	0.235 ± 0.490 (0.883) C:NA T:90%	pCi/L		11/30/22 16:25	
EPA 904.0	Radium-228	0.464 ± 0.304 (0.562) C:78% T:86%	pCi/L		11/29/22 15:18	
Total Radium Calculation	Total Radium	0.699 ± 0.794 (1.45)	pCi/L		12/01/22 16:07	
SM 2540C	Total Dissolved Solids	2540	mg/L	40.0	11/14/22 08:11	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	11/11/22 18:39	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50330533

Sample: MW-4C **Lab ID: 50330533001** Collected: 11/08/22 14:35 Received: 11/09/22 10:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**39.6**	mg/L	2.5	0.67	10		11/13/22 08:12	16887-00-6	
Fluoride	**0.19**	mg/L	0.10	0.017	1		11/13/22 07:55	16984-48-8	
Sulfate	**1360**	mg/L	25.0	8.5	100		11/13/22 08:28	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Barium	**32.6**	ug/L	10.0	2.1	1	11/19/22 13:30	11/21/22 14:44	7440-39-3	
Boron	**3960**	ug/L	100	37.6	1	11/19/22 13:30	11/21/22 14:44	7440-42-8	
Cadmium	ND	ug/L	2.0	0.66	1	11/19/22 13:30	11/21/22 14:44	7440-43-9	
Calcium	**600000**	ug/L	10000	1630	10	11/19/22 13:30	11/22/22 08:26	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	11/19/22 13:30	11/21/22 14:44	7440-47-3	
Lead	ND	ug/L	10.0	2.6	1	11/19/22 13:30	11/21/22 14:44	7439-92-1	
Lithium	**411**	ug/L	20.0	6.2	1	11/19/22 13:30	11/21/22 14:44	7439-93-2	
Molybdenum	ND	ug/L	10.0	3.7	1	11/19/22 13:30	11/21/22 14:44	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.13	1	11/12/22 10:50	11/14/22 23:12	7440-36-0	
Arsenic	ND	ug/L	1.0	0.11	1	11/12/22 10:50	11/14/22 23:12	7440-38-2	
Beryllium	ND	ug/L	0.20	0.033	1	11/12/22 10:50	11/14/22 23:12	7440-41-7	
Cobalt	**1.1**	ug/L	1.0	0.086	1	11/12/22 10:50	11/14/22 23:12	7440-48-4	
Selenium	ND	ug/L	1.0	0.35	1	11/12/22 10:50	11/14/22 23:12	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2540**	mg/L	40.0	40.0	1		11/14/22 08:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		11/11/22 18:39		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 706020
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330533001

METHOD BLANK: 3246034 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	11/12/22 13:02	
Fluoride	mg/L	ND	0.10	0.017	11/12/22 13:02	
Sulfate	mg/L	ND	0.25	0.085	11/12/22 13:02	

LABORATORY CONTROL SAMPLE: 3246035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.2	1.2	94	80-120	
Fluoride	mg/L	0.5	0.49	97	80-120	
Sulfate	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246036 3246037

Parameter	Units	50330899002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	139	125	125	258	259	95	96	80-120	0	15	
Fluoride	mg/L	0.15	0.5	0.5	0.61	0.61	93	93	80-120	0	15	
Sulfate	mg/L	37.2	25	25	59.4	59.3	89	88	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 705386
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330533001

METHOD BLANK: 3242544 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	2.1	11/21/22 15:34	
Boron	ug/L	ND	100	37.6	11/21/22 15:34	
Cadmium	ug/L	ND	2.0	0.66	11/21/22 15:34	
Calcium	ug/L	ND	1000	163	11/21/22 15:34	
Chromium	ug/L	ND	10.0	0.97	11/21/22 15:34	
Lead	ug/L	ND	10.0	2.6	11/21/22 15:34	
Lithium	ug/L	ND	20.0	6.2	11/21/22 15:34	
Molybdenum	ug/L	ND	10.0	3.7	11/21/22 15:34	

LABORATORY CONTROL SAMPLE: 3242545

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	80-120	
Boron	ug/L	1000	990	99	80-120	
Cadmium	ug/L	1000	987	99	80-120	
Calcium	ug/L	10000	10200	102	80-120	
Chromium	ug/L	1000	1000	100	80-120	
Lead	ug/L	1000	998	100	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242546 3242547

Parameter	Units	50330513019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	41.3	1000	1000	1110	1110	107	107	75-125	0	20	
Boron	ug/L	197	1000	1000	1240	1250	105	105	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1030	1040	103	103	75-125	1	20	
Calcium	ug/L	89600	10000	10000	99400	101000	98	116	75-125	2	20	
Chromium	ug/L	ND	1000	1000	1010	1020	101	102	75-125	0	20	
Lead	ug/L	ND	1000	1000	1020	1020	102	102	75-125	0	20	
Lithium	ug/L	37.8	1000	1000	1140	1140	110	110	75-125	0	20	
Molybdenum	ug/L	ND	1000	1000	1090	1100	108	109	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 705766
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50330533001

METHOD BLANK: 3244390 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	11/14/22 22:16	
Arsenic	ug/L	ND	1.0	0.11	11/14/22 22:16	
Beryllium	ug/L	ND	0.20	0.033	11/14/22 22:16	
Cobalt	ug/L	ND	1.0	0.086	11/14/22 22:16	
Selenium	ug/L	ND	1.0	0.35	11/14/22 22:16	

LABORATORY CONTROL SAMPLE: 3244391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	102	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Beryllium	ug/L	40	40.0	100	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Selenium	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244392 3244393

Parameter	Units	50330517006 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	42.8	42.5	107	106	75-125	1	20	
Arsenic	ug/L	<5.0	40	40	40.7	40.4	98	97	75-125	1	20	
Beryllium	ug/L	<1.0	40	40	42.0	41.9	105	105	75-125	0	20	
Cobalt	ug/L	<1.0	40	40	39.3	39.6	98	99	75-125	1	20	
Selenium	ug/L	<5.0	40	40	40.0	41.4	100	103	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 706095
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50330533001

METHOD BLANK: 3246232 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/14/22 08:05	

LABORATORY CONTROL SAMPLE: 3246233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	294	98	80-120	

SAMPLE DUPLICATE: 3246234

Parameter	Units	50330503007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	547	543	1	10	

SAMPLE DUPLICATE: 3246235

Parameter	Units	50330522001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	743	735	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 705945
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: 50330533001

SAMPLE DUPLICATE: 3245478

Parameter	Units	50330493006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

SAMPLE DUPLICATE: 3245479

Parameter	Units	50330533001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330533

Sample: MW-4C **Lab ID: 50330533001** Collected: 11/08/22 14:35 Received: 11/09/22 10:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.235 ± 0.490 (0.883) C:NA T:90%**	pCi/L	11/30/22 16:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.464 ± 0.304 (0.562) C:78% T:86%**	pCi/L	11/29/22 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.699 ± 0.794 (1.45)**	pCi/L	12/01/22 16:07	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 546804
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: 50330533001

METHOD BLANK: 2655758 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.367 ± 0.319 (0.644) C:81% T:87%	pCi/L	11/29/22 12:09	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50330533

QC Batch: 546803
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: 50330533001

METHOD BLANK: 2655757 Matrix: Water
Associated Lab Samples: 50330533001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.139 ± 0.213 (0.342) C:NA T:93%	pCi/L	11/30/22 15:57	

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QUALIFIERS

Project: Petersburg P2R1
Pace Project No.: 50330533

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R1
Pace Project No.: 50330533

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50330533001	**MW-4C**	EPA 9056	706020		
50330533001	**MW-4C**	EPA 3010	705386	EPA 6010	707558
50330533001	**MW-4C**	EPA 200.2	705766	EPA 6020	706054
50330533001	**MW-4C**	EPA 903.1	546803		
50330533001	**MW-4C**	EPA 904.0	546804		
50330533001	**MW-4C**	Total Radium Calculation	550796		
50330533001	**MW-4C**	SM 2540C	706095		
50330533001	**MW-4C**	SM 4500-H+B	705945		

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CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mu

WO# : 50330533

50330533

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 P2R1	Pace Project Manager:	Hayden Putt
Requested Due Date:		Project #:		Pace Profile #:	10498/27

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW-4C					11-8	1435		5	X		X							X	X	X	X	
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Metals* 6010: Ba,B,Cd,Cr,Pb,Mn,Mo,Ca,Li		11-9-22	0825		11/9/22	0825				
6020: Be,Co,Cu,Zn,As,Se		11/9/22	1152	Pace	11/9/22	1152	0.7	Y	Y	Y
							0.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 11/9/22 1130 IC

1. Courier: IC ☐ 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)

0.1/0.1	0.1/0.1		

RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. Ice Type: ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

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

COMMENTS:

COC PAGE __1__ of __1__

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
		DI																														
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	Syringe Kit			Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																2		2	1									WT	✓			
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

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

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 20, 2023

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

RE: Project: Petersburg P4R3
Pace Project No.: 50331534

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on November 18, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P4R3
Pace Project No.: 50331534

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P4R3
Pace Project No.: 50331534

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50331534001	**MW-24**	Water	11/18/22 09:40	11/18/22 13:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50331534

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50331534001	**MW-24**	EPA 6010	DJS	14	PASI-I
		EPA 6010	DJS	3	PASI-I
		EPA 6020	DMT	5	PASI-I
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	TRK	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50331534

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50331534001	**MW-24**					
EPA 6010	Barium	41.6	ug/L	10.0	12/06/22 10:32	
EPA 6010	Boron	1040	ug/L	100	12/06/22 10:32	
EPA 6010	Calcium	272000	ug/L	2000	12/06/22 10:59	
EPA 6010	Iron	136	ug/L	100	12/06/22 10:32	
EPA 6010	Lithium	1580	ug/L	20.0	12/06/22 10:32	
EPA 6010	Magnesium	33800	ug/L	1000	12/06/22 10:32	
EPA 6010	Manganese	992	ug/L	10.0	12/06/22 10:32	
EPA 6010	Molybdenum	373	ug/L	10.0	12/06/22 10:32	
EPA 6010	Potassium	152000	ug/L	2000	12/06/22 10:59	
EPA 6010	Silica	18000	ug/L	450	12/06/22 10:32	N2
EPA 6010	Sodium	88500	ug/L	1000	12/06/22 10:32	
EPA 6010	Iron, Dissolved	116	ug/L	100	12/04/22 16:02	
EPA 6010	Manganese, Dissolved	968	ug/L	10.0	12/04/22 16:02	
EPA 6010	Molybdenum, Dissolved	373	ug/L	10.0	12/05/22 09:29	
EPA 6020	Cobalt	2.2	ug/L	1.0	11/29/22 08:26	
EPA 903.1	Radium-226	0.362 ± 0.475 (0.791) C:NA T:100%	pCi/L		12/12/22 15:44	
EPA 904.0	Radium-228	0.443 ± 0.302 (0.576) C:88% T:93%	pCi/L		12/13/22 15:03	
Total Radium Calculation	Total Radium	0.805 ± 0.777 (1.37)	pCi/L		12/14/22 10:52	
SM 2320B	Alkalinity, Total as CaCO3	173	mg/L	10.0	11/24/22 12:27	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	173	mg/L	10.0	11/24/22 12:27	
SM 2540C	Total Dissolved Solids	1590	mg/L	20.0	11/23/22 07:09	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	11/25/22 14:13	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50331534

Sample: MW-24 **Lab ID: 50331534001** Collected: 11/18/22 09:40 Received: 11/18/22 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	54.4	1	12/04/22 16:44	12/06/22 10:32	7429-90-5	
Barium	**41.6**	ug/L	10.0	1.3	1	12/04/22 16:44	12/06/22 10:32	7440-39-3	
Boron	**1040**	ug/L	100	61.4	1	12/04/22 16:44	12/06/22 10:32	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	12/04/22 16:44	12/06/22 10:32	7440-43-9	
Calcium	**272000**	ug/L	2000	177	2	12/04/22 16:44	12/06/22 10:59	7440-70-2	
Iron	**136**	ug/L	100	48.8	1	12/04/22 16:44	12/06/22 10:32	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	12/04/22 16:44	12/06/22 10:32	7439-92-1	
Lithium	**1580**	ug/L	20.0	6.2	1	12/04/22 16:44	12/06/22 10:32	7439-93-2	
Magnesium	**33800**	ug/L	1000	43.0	1	12/04/22 16:44	12/06/22 10:32	7439-95-4	
Manganese	**992**	ug/L	10.0	5.4	1	12/04/22 16:44	12/06/22 10:32	7439-96-5	
Molybdenum	**373**	ug/L	10.0	2.0	1	12/04/22 16:44	12/06/22 10:32	7439-98-7	
Potassium	**152000**	ug/L	2000	400	2	12/04/22 16:44	12/06/22 10:59	7440-09-7	
Silica	**18000**	ug/L	450		1	12/04/22 16:44	12/06/22 10:32	7631-86-9	N2
Sodium	**88500**	ug/L	1000	284	1	12/04/22 16:44	12/06/22 10:32	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	**116**	ug/L	100	48.8	1	12/01/22 08:43	12/04/22 16:02	7439-89-6	
Manganese, Dissolved	**968**	ug/L	10.0	5.4	1	12/01/22 08:43	12/04/22 16:02	7439-96-5	
Molybdenum, Dissolved	**373**	ug/L	10.0	3.7	1	12/01/22 08:43	12/05/22 09:29	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.28	1	11/23/22 08:50	11/29/22 08:26	7440-36-0	
Arsenic	ND	ug/L	1.0	0.094	1	11/23/22 08:50	11/29/22 08:26	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	11/23/22 08:50	11/30/22 06:26	7440-41-7	
Cobalt	**2.2**	ug/L	1.0	0.072	1	11/23/22 08:50	11/29/22 08:26	7440-48-4	
Selenium	ND	ug/L	1.0	0.57	1	11/23/22 08:50	11/29/22 08:26	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**173**	mg/L	10.0	10.0	1		11/24/22 12:27		
Alkalinity,Bicarbonate (CaCO3)	**173**	mg/L	10.0	10.0	1		11/24/22 12:27		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		11/24/22 12:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1590**	mg/L	20.0	20.0	1		11/23/22 07:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		11/25/22 14:13		H3

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50331534

Sample: MW-24 **Lab ID: 50331534001** Collected: 11/18/22 09:40 Received: 11/18/22 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		11/19/22 15:56	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		11/28/22 18:39	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		11/18/22 18:17	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		11/18/22 18:17	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	11/23/22 12:00	11/25/22 13:53		
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.14	1		12/07/22 18:50		

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 P4R3
Pace Project No.: 50331534

QC Batch: 708439
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50331534001

METHOD BLANK: 3256293 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	54.4	12/06/22 09:09	
Barium	ug/L	ND	10.0	1.3	12/06/22 09:09	
Boron	ug/L	ND	100	61.4	12/06/22 09:09	
Cadmium	ug/L	ND	2.0	0.48	12/06/22 09:09	
Calcium	ug/L	ND	1000	88.4	12/06/22 09:09	
Iron	ug/L	ND	100	48.8	12/06/22 09:09	
Lead	ug/L	ND	10.0	3.9	12/06/22 09:09	
Lithium	ug/L	ND	20.0	6.2	12/06/22 09:09	
Magnesium	ug/L	ND	1000	43.0	12/06/22 09:09	
Manganese	ug/L	ND	10.0	5.4	12/06/22 09:09	
Molybdenum	ug/L	ND	10.0	2.0	12/06/22 09:09	
Potassium	ug/L	ND	1000	200	12/06/22 09:09	
Silica	ug/L	ND	450		12/06/22 09:09	N2
Sodium	ug/L	ND	1000	284	12/06/22 09:09	

LABORATORY CONTROL SAMPLE: 3256294

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10800	108	80-120	
Barium	ug/L	1000	1060	106	80-120	
Boron	ug/L	1000	1040	104	80-120	
Cadmium	ug/L	1000	1030	103	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Iron	ug/L	10000	10500	105	80-120	
Lead	ug/L	1000	996	100	80-120	
Lithium	ug/L	1000	1100	110	80-120	
Magnesium	ug/L	10000	10300	103	80-120	
Manganese	ug/L	1000	1030	103	80-120	
Molybdenum	ug/L	1000	1100	110	80-120	
Potassium	ug/L	10000	11000	110	80-120	
Silica	ug/L	10700	11400	107	80-120	N2
Sodium	ug/L	10000	11400	114	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3256295			3256296							
Parameter	Units	50331477003 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	11700	11400	117	114	75-125	2	20	
Barium	ug/L	608	1000	1000	1690	1660	108	105	75-125	2	20	
Boron	ug/L	825	1000	1000	1950	1930	113	110	75-125	1	20	
Cadmium	ug/L	0.76J	1000	1000	1070	1050	107	105	75-125	2	20	
Calcium	ug/L	145000	10000	10000	158000	156000	124	105	75-125	1	20	
Iron	ug/L	1850	10000	10000	12300	12300	104	105	75-125	0	20	
Lead	ug/L	ND	1000	1000	966	947	97	95	75-125	2	20	
Lithium	ug/L	36.9	1000	1000	1170	1160	114	112	75-125	1	20	
Magnesium	ug/L	82600	10000	10000	94400	93000	118	104	75-125	1	20	
Manganese	ug/L	211	1000	1000	1240	1220	102	101	75-125	1	20	
Molybdenum	ug/L	ND	1000	1000	1120	1100	112	110	75-125	2	20	
Potassium	ug/L	14300	10000	10000	27000	26000	126	117	75-125	4	20	M0
Silica	ug/L	36700	10700	10700	48400	48800	110	113	75-125	1	20	N2
Sodium	ug/L	124000	10000	10000	140000	138000	150	131	75-125	1	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3256297			3256298							
Parameter	Units	50331482001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3810	100000	100000	117000	119000	113	115	75-125	2	20	
Barium	ug/L	944	10000	10000	11200	11500	102	105	75-125	2	20	
Boron	ug/L	33400	10000	10000	40400	42200	70	88	75-125	4	20	M0
Cadmium	ug/L	ND	10000	10000	10400	10500	104	105	75-125	1	20	
Calcium	ug/L	4320000	100000	100000	4000000	4220000	-310	-98	75-125	5	20	P6
Iron	ug/L	4960000	100000	100000	4540000	4820000	-426	-143	75-125	6	20	P6
Lead	ug/L	273	10000	10000	8900	8970	86	87	75-125	1	20	
Lithium	ug/L	441	10000	10000	11700	11900	112	115	75-125	2	20	
Magnesium	ug/L	923000	100000	100000	919000	962000	-4	39	75-125	5	20	P6
Manganese	ug/L	114000	10000	10000	112000	116000	-28	21	75-125	4	20	P6
Molybdenum	ug/L	ND	10000	10000	10600	10700	106	107	75-125	1	20	
Potassium	ug/L	1260000	100000	100000	1240000	1320000	-16	60	75-125	6	20	P6
Silica	ug/L	147000	107000	107000	188000	187000	39	37	75-125	1	20	M3,N2
Sodium	ug/L	5120000	100000	100000	4730000	5020000	-387	-105	75-125	6	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3256299			3256300							
Parameter	Units	50331495002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<200	10000	10000	11500	11500	115	115	75-125	0	20	
Barium	ug/L	186	1000	1000	1250	1260	106	107	75-125	1	20	
Boron	ug/L	273	1000	1000	1350	1380	107	111	75-125	2	20	
Cadmium	ug/L	<2.0	1000	1000	1070	1070	107	107	75-125	0	20	
Calcium	ug/L	171000	10000	10000	181000	181000	103	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3256299 3256300

Parameter	Units	50331495002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	30200	10000	10000	40700	40800	105	106	75-125	0	20	
Lead	ug/L	<10.0	1000	1000	950	951	95	95	75-125	0	20	
Lithium	ug/L	<20.0	1000	1000	1150	1160	114	114	75-125	0	20	
Magnesium	ug/L	51200	10000	10000	62100	62300	109	112	75-125	0	20	
Manganese	ug/L	154	1000	1000	1150	1160	100	100	75-125	0	20	
Molybdenum	ug/L	<10.0	1000	1000	1110	1110	111	111	75-125	0	20	
Potassium	ug/L	10400	10000	10000	21600	22100	112	118	75-125	3	20	
Silica	ug/L	26800	10700	10700	39100	39100	114	115	75-125	0	20	N2
Sodium	ug/L	95400	10000	10000	109000	111000	132	155	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 708398
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50331534001

METHOD BLANK: 3256153 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	12/04/22 16:32	
Manganese, Dissolved	ug/L	ND	10.0	5.4	12/04/22 16:32	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	12/05/22 09:10	

LABORATORY CONTROL SAMPLE: 3256154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	8730	87	80-120	
Manganese, Dissolved	ug/L	1000	888	89	80-120	
Molybdenum, Dissolved	ug/L	1000	911	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3256155 3256156

Parameter	Units	50331482002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	4780	50000	50000	55900	51000	102	92	75-125	9	20	
Manganese, Dissolved	ug/L	91.4	5000	5000	5320	4900	104	96	75-125	8	20	
Molybdenum, Dissolved	ug/L	27.1J	5000	5000	5620	5220	112	104	75-125	7	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 707907
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50331534001

METHOD BLANK: 3254097 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.28	11/29/22 02:07	
Arsenic	ug/L	ND	1.0	0.094	11/29/22 02:07	
Beryllium	ug/L	ND	0.20	0.021	11/29/22 07:36	
Cobalt	ug/L	ND	1.0	0.072	11/29/22 02:07	
Selenium	ug/L	ND	1.0	0.57	11/29/22 02:07	

LABORATORY CONTROL SAMPLE: 3254098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.6	104	80-120	
Arsenic	ug/L	40	38.8	97	80-120	
Beryllium	ug/L	40	40.8	102	80-120	
Cobalt	ug/L	40	40.4	101	80-120	
Selenium	ug/L	40	38.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254099 3254100

Parameter	Units	50331499002 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	42.6	43.0	106	107	75-125	1	20	
Arsenic	ug/L	<1.0	40	40	38.6	38.8	96	97	75-125	1	20	
Beryllium	ug/L	<0.20	40	40	38.6	39.1	96	98	75-125	1	20	CC
Cobalt	ug/L	<1.0	40	40	38.6	39.2	96	98	75-125	2	20	
Selenium	ug/L	<1.0	40	40	36.2	36.8	90	92	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 708045
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50331534001

METHOD BLANK: 3254850 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	11/24/22 12:27	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	11/24/22 12:27	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	11/24/22 12:27	

LABORATORY CONTROL SAMPLE: 3254851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.7	99	90-110	

SAMPLE DUPLICATE: 3254852

Parameter	Units	50331607007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	449	455	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	449	455	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3254853

Parameter	Units	50331694006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	284	288	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	284	288	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 707960
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50331534001

METHOD BLANK: 3254457 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/23/22 07:06	

LABORATORY CONTROL SAMPLE: 3254458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	281	94	80-120	

SAMPLE DUPLICATE: 3254459

Parameter	Units	50331623001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1830	1760	4	10	

SAMPLE DUPLICATE: 3254460

Parameter	Units	50331834001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	728	726	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 708227
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: 50331534001

SAMPLE DUPLICATE: 3255611

Parameter	Units	50330744002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.6	1	2	H3

SAMPLE DUPLICATE: 3255612

Parameter	Units	50331482001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.9	5.9	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 707336
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: 50331534001

METHOD BLANK: 3251905 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	11/19/22 15:56	

LABORATORY CONTROL SAMPLE: 3251906

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: 3251907 3251908

Parameter	Units	50331571001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.48	0.45	95	90	90-110	6	20	

MATRIX SPIKE SAMPLE: 3251909

Parameter	Units	50331602028 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.64	129	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 708493
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50331534001

METHOD BLANK: 3256441 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	11/28/22 18:33	H3,N2

LABORATORY CONTROL SAMPLE: 3256442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	102	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3256443 3256444

Parameter	Units	50330817022 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	0.96	1.0	96	104	90-110	9	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3256445 3256446

Parameter	Units	50331424001 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	0.99	0.99	99	99	90-110	0	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 707061
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: 50331534001

METHOD BLANK: 3250478 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	11/18/22 08:03	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	11/18/22 08:03	

LABORATORY CONTROL SAMPLE: 3250479

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	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250480 3250481

Parameter	Units	50331493004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	1.1	1	1	2.2	2.2	104	104	90-110	0	20	
Nitrogen, Nitrite	mg/L	0.024J	1	1	1.0	1.0	101	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3251582

Parameter	Units	50331571001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	103	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	104	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 708012
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: 50331534001

METHOD BLANK: 3254695 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	11/25/22 13:43	

LABORATORY CONTROL SAMPLE: 3254696

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254697 3254698

Parameter	Units	50331482001 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			69.1	72.2				4		

MATRIX SPIKE SAMPLE: 3254699

Parameter	Units	50331534001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.3			

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 709579
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50331534001

METHOD BLANK: 3261002 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	12/07/22 14:04	

LABORATORY CONTROL SAMPLE: 3261003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261004 3261005

Parameter	Units	50331365001 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	11.5	11.6	102	104	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261006 3261007

Parameter	Units	50331424001 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	11.5	11.4	104	102	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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7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50331534

Sample: MW-24 **Lab ID: 50331534001** Collected: 11/18/22 09:40 Received: 11/18/22 13:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.362 ± 0.475 (0.791) C:NA T:100%**	pCi/L	12/12/22 15:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.443 ± 0.302 (0.576) C:88% T:93%**	pCi/L	12/13/22 15:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.805 ± 0.777 (1.37)**	pCi/L	12/14/22 10:52	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 549581
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: 50331534001

METHOD BLANK: 2669575 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.103 ± 0.286 (0.554) C:NA T:99%	pCi/L	12/12/22 15:44	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50331534

QC Batch: 549582
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: 50331534001

METHOD BLANK: 2669576 Matrix: Water
Associated Lab Samples: 50331534001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0609 ± 0.214 (0.486) C:87% T:95%	pCi/L	12/13/22 15:02	

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QUALIFIERS

Project: Petersburg P4R3
Pace Project No.: 50331534

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50331534

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50331534001	**MW-24**	EPA 3010	708439	EPA 6010	709672
50331534001	**MW-24**	EPA 3010	708398	EPA 6010	709384
50331534001	**MW-24**	EPA 200.2	707907	EPA 6020	708265
50331534001	**MW-24**	EPA 903.1	549581		
50331534001	**MW-24**	EPA 904.0	549582		
50331534001	**MW-24**	Total Radium Calculation	553702		
50331534001	**MW-24**	SM 2320B	708045		
50331534001	**MW-24**	SM 2540C	707960		
50331534001	**MW-24**	SM 4500-H+B	708227		
50331534001	**MW-24**	SM 4500-S2-D	707336		
50331534001	**MW-24**	HACH 8146	708493		
50331534001	**MW-24**	EPA 353.2	707061		
50331534001	**MW-24**	EPA 365.1	708012	EPA 365.1	708225
50331534001	**MW-24**	SM 5310C	709579		

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WO# : 50331534

50331534

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : Of

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:	Regulatory Agency
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)579-4082 Fax:	Project Name: Petersburg P4R3	Pace Project Manager: Hayden Putt	State / Location
Requested Due Date:	Project #:	Pace Profile #: 10498/28	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 + 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	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
1	MW 24	WT	G	11/18/20	940				11	X	X	X		X					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Al, Ba, B, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Mohammed Bazlamit	11/18/22	1315	[signature]	11/18/22	1315	1.7	y	n	y
6020 (Be, Co, As, Se, Sb)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazlamit

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/18/22

F-IN-Q-290-rev.22, 22Apr2022

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 11/9/22 1350 SML

1. **Courier:** ☐ FED EX ☐ UPS ☑ CLIENT ☐ PACE ☐ USPS ☐ OTHER _____
2. **Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No
   (If yes)Seals Intact: ☐ Yes ☐ No **(leave blank if no seals were present)**
3. **Thermometer:** 1 2 3 4 5 6 A B C D E F
4. **Cooler Temperature(s):** 2.0/1.7 | | | |
   (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)
5. **Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____
6. **Ice Type:** ☑ Wet ☐ Blue ☐ None
7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
   Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
Short Hold Time Analysis (48 hours or less)? Analysis: NO3	✓		**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: 1500			Present	Absent	N/A
Rush TAT Requested (4 days or less):		—	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			—
Custody Signatures Present?	✓		Residual Chlorine Check (Total/Amenable/Free Cyanide)			—
Containers Intact?:	✓		Headspace Wisconsin Sulfide?			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Extra labels on Terracore Vials? (soils only)		✓	Trip Blank Present?		✓	
			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H	VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	Syringe Kit			Matrix	Nitric / Red / HNO3 <2	Sulfuric / Yellow / H2SO4 <2	Sodium Hydroxide / Green / NaOH >10	Sodium Hydroxide/ ZnAc / Black / NaOH/Zn Ac >9
1														1			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	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
T	Tedlar Bag (air sample)
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 21, 2023

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

RE: Project: Petersburg P5R1
Pace Project No.: 50334142

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P5R1
Pace Project No.: 50334142

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P5R1
Pace Project No.: 50334142

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50334142001	**MW-33D2**	Water	12/21/22 12:15	12/21/22 16:30

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SAMPLE ANALYTE COUNT

Project: Petersburg P5R1
Pace Project No.: 50334142

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50334142001	**MW-33D2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	DJS	15	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	6	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	RJP	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P5R1
Pace Project No.: 50334142

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50334142001	**MW-33D2**					
EPA 9056	Chloride	46.0	mg/L	2.5	12/28/22 05:47	
EPA 9056	Fluoride	3.6	mg/L	0.10	12/28/22 05:30	
EPA 9056	Sulfate	4.0	mg/L	0.25	12/28/22 05:30	
EPA 6010	Aluminum	713	ug/L	200	01/06/23 10:26	
EPA 6010	Barium	129	ug/L	10.0	01/06/23 10:26	
EPA 6010	Boron	1180	ug/L	100	01/06/23 10:26	
EPA 6010	Calcium	3470	ug/L	1000	01/06/23 13:00	
EPA 6010	Iron	525	ug/L	100	01/06/23 10:26	
EPA 6010	Lithium	27.5	ug/L	20.0	01/06/23 10:26	
EPA 6010	Magnesium	1240	ug/L	1000	01/06/23 10:26	
EPA 6010	Manganese	20.3	ug/L	10.0	01/06/23 10:26	
EPA 6010	Potassium	1640	ug/L	1000	01/06/23 10:26	
EPA 6010	Silica	11600	ug/L	450	01/06/23 10:26	N2
EPA 6010	Sodium	274000	ug/L	2000	01/06/23 12:56	
EPA 6010	Lithium, Dissolved	20.7	ug/L	20.0	01/05/23 13:09	
EPA 6010	Manganese, Dissolved	10.6	ug/L	10.0	01/05/23 13:09	
EPA 903.1	Radium-226	0.283 ± 0.439 (0.761) C:NA T:93%	pCi/L		01/10/23 17:12	
EPA 904.0	Radium-228	0.509 ± 0.338 (0.638) C:94% T:87%	pCi/L		01/11/23 14:58	
Total Radium Calculation	Total Radium	0.792 ± 0.777 (1.40)	pCi/L		01/12/23 15:59	
SM 2320B	Alkalinity, Total as CaCO3	521	mg/L	10.0	12/27/22 16:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	489	mg/L	10.0	12/27/22 16:04	
SM 2320B	Alkalinity,Carbonate (CaCO3)	31.8	mg/L	10.0	12/27/22 16:04	
SM 2540C	Total Dissolved Solids	616	mg/L	10.0	12/27/22 09:03	
SM 4500-H+B	pH at 25 Degrees C	8.5	Std. Units	0.10	01/06/23 13:12	H3

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P5R1
Pace Project No.: 50334142

Sample: MW-33D2 **Lab ID: 50334142001** Collected: 12/21/22 12:15 Received: 12/21/22 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**46.0**	mg/L	2.5	0.67	10		12/28/22 05:47	16887-00-6	
Fluoride	**3.6**	mg/L	0.10	0.017	1		12/28/22 05:30	16984-48-8	
Sulfate	**4.0**	mg/L	0.25	0.085	1		12/28/22 05:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**713**	ug/L	200	54.4	1	01/02/23 18:20	01/06/23 10:26	7429-90-5	
Barium	**129**	ug/L	10.0	1.3	1	01/02/23 18:20	01/06/23 10:26	7440-39-3	
Boron	**1180**	ug/L	100	61.4	1	01/02/23 18:20	01/06/23 10:26	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	01/02/23 18:20	01/06/23 10:26	7440-43-9	
Calcium	**3470**	ug/L	1000	88.4	1	01/02/23 18:20	01/06/23 13:00	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	01/02/23 18:20	01/06/23 10:26	7440-47-3	
Iron	**525**	ug/L	100	48.8	1	01/02/23 18:20	01/06/23 10:26	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	01/02/23 18:20	01/06/23 10:26	7439-92-1	
Lithium	**27.5**	ug/L	20.0	6.2	1	01/02/23 18:20	01/06/23 10:26	7439-93-2	
Magnesium	**1240**	ug/L	1000	43.0	1	01/02/23 18:20	01/06/23 10:26	7439-95-4	
Manganese	**20.3**	ug/L	10.0	5.4	1	01/02/23 18:20	01/06/23 10:26	7439-96-5	
Molybdenum	ND	ug/L	10.0	2.0	1	01/02/23 18:20	01/06/23 10:26	7439-98-7	
Potassium	**1640**	ug/L	1000	200	1	01/02/23 18:20	01/06/23 10:26	7440-09-7	
Silica	**11600**	ug/L	450		1	01/02/23 18:20	01/06/23 10:26	7631-86-9	N2
Sodium	**274000**	ug/L	2000	568	2	01/02/23 18:20	01/06/23 12:56	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	12/31/22 12:17	01/05/23 13:09	7439-89-6	
Lithium, Dissolved	**20.7**	ug/L	20.0	6.2	1	12/31/22 12:17	01/05/23 13:09	7439-93-2	
Manganese, Dissolved	**10.6**	ug/L	10.0	2.5	1	12/31/22 12:17	01/05/23 13:09	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	3.7	1	12/31/22 12:17	01/05/23 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	0.13	1	12/26/22 18:05	12/28/22 02:10	7440-36-0	
Arsenic	ND	ug/L	1.0	0.10	1	12/26/22 18:05	12/28/22 02:10	7440-38-2	
Beryllium	ND	ug/L	0.20	0.026	1	12/26/22 18:05	12/28/22 02:10	7440-41-7	
Cobalt	ND	ug/L	1.0	0.082	1	12/26/22 18:05	12/28/22 02:10	7440-48-4	
Selenium	ND	ug/L	1.0	0.44	1	12/26/22 18:05	12/28/22 02:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.072	1	12/26/22 18:05	12/28/22 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	0.10	1	01/02/23 17:53	01/03/23 14:43	7440-38-2	

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ANALYTICAL RESULTS

Project: Petersburg P5R1
Pace Project No.: 50334142

Sample: MW-33D2 **Lab ID: 50334142001** Collected: 12/21/22 12:15 Received: 12/21/22 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**521**	mg/L	10.0	10.0	1		12/27/22 16:04		
Alkalinity,Bicarbonate (CaCO3)	**489**	mg/L	10.0	10.0	1		12/27/22 16:04		
Alkalinity,Carbonate (CaCO3)	**31.8**	mg/L	10.0	10.0	1		12/27/22 16:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**616**	mg/L	10.0	10.0	1		12/27/22 09:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**8.5**	Std. Units	0.10	0.10	1		01/06/23 13:12		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		12/23/22 10:32	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		12/27/22 18:06	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	0.011	1		12/21/22 18:15	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		12/21/22 18:15	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	0.15	1	12/28/22 09:00	12/28/22 22:44		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.14	1		12/29/22 18:32	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.14	1		01/03/23 13:34		

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712184
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50334142001

METHOD BLANK: 3273463 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	12/27/22 10:57	
Fluoride	mg/L	ND	0.10	0.017	12/27/22 10:57	
Sulfate	mg/L	ND	0.25	0.085	12/27/22 10:57	

LABORATORY CONTROL SAMPLE: 3273464

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	0.46	92	80-120	
Sulfate	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3273465 3273466

Parameter	Units	50333999002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.4	1.2	1.2	2.4	2.4	82	81	80-120	1	15	
Fluoride	mg/L	0.25	0.5	0.5	0.74	0.73	97	97	80-120	0	15	
Sulfate	mg/L	12.1	2.5	2.5	14.8	14.7	107	106	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3273467 3273468

Parameter	Units	50334118001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	118	12.5	12.5	124	125	48	52	80-120	0	15	M0
Fluoride	mg/L	ND	0.5	0.5	0.52	0.54	90	94	80-120	4	15	
Sulfate	mg/L	1620	250	250	1900	1860	113	98	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 713149
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50334142001

METHOD BLANK: 3276956 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	54.4	01/06/23 09:53	
Barium	ug/L	ND	10.0	1.3	01/06/23 09:53	
Boron	ug/L	ND	100	61.4	01/06/23 09:53	
Cadmium	ug/L	ND	2.0	0.48	01/06/23 09:53	
Calcium	ug/L	ND	1000	88.4	01/06/23 09:53	
Chromium	ug/L	ND	10.0	2.4	01/06/23 09:53	
Iron	ug/L	ND	100	48.8	01/06/23 09:53	
Lead	ug/L	ND	10.0	3.9	01/06/23 09:53	
Lithium	ug/L	ND	20.0	6.2	01/06/23 09:53	
Magnesium	ug/L	ND	1000	43.0	01/06/23 09:53	
Manganese	ug/L	ND	10.0	5.4	01/06/23 09:53	
Molybdenum	ug/L	ND	10.0	2.0	01/06/23 09:53	
Potassium	ug/L	ND	1000	200	01/06/23 09:53	
Silica	ug/L	ND	450		01/06/23 09:53	N2
Sodium	ug/L	ND	1000	284	01/06/23 09:53	

LABORATORY CONTROL SAMPLE: 3276957

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10800	108	80-120	
Barium	ug/L	1000	1050	105	80-120	
Boron	ug/L	1000	1060	106	80-120	
Cadmium	ug/L	1000	1020	102	80-120	
Calcium	ug/L	10000	10900	109	80-120	
Chromium	ug/L	1000	1040	104	80-120	
Iron	ug/L	10000	10500	105	80-120	
Lead	ug/L	1000	990	99	80-120	
Lithium	ug/L	1000	1050	105	80-120	
Magnesium	ug/L	10000	10600	106	80-120	
Manganese	ug/L	1000	1040	104	80-120	
Molybdenum	ug/L	1000	1060	106	80-120	
Potassium	ug/L	10000	10600	106	80-120	
Silica	ug/L	10700	11100	103	80-120	N2
Sodium	ug/L	10000	10500	105	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3276958 3276959

Parameter	Units	50334121001 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	11300	10700	113	106	75-125	6	20	
Barium	ug/L	460	1000	1000	1540	1460	107	100	75-125	5	20	
Boron	ug/L	7690	1000	1000	8750	8470	105	77	75-125	3	20	
Cadmium	ug/L	2.3	1000	1000	1050	995	105	99	75-125	5	20	
Calcium	ug/L	236000	10000	10000	246000	238000	100	18	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	1040	989	104	99	75-125	5	20	
Iron	ug/L	27300	10000	10000	37400	36000	101	88	75-125	4	20	
Lead	ug/L	ND	1000	1000	954	911	95	91	75-125	5	20	
Lithium	ug/L	ND	1000	1000	1120	1060	112	106	75-125	6	20	
Magnesium	ug/L	73800	10000	10000	84200	81000	104	72	75-125	4	20	P6
Manganese	ug/L	953	1000	1000	1980	1900	103	94	75-125	4	20	
Molybdenum	ug/L	ND	1000	1000	1080	1030	108	102	75-125	5	20	
Potassium	ug/L	4250	10000	10000	15800	15000	116	108	75-125	5	20	
Silica	ug/L	30700	10700	10700	41900	40400	104	90	75-125	4	20	N2
Sodium	ug/L	78300	10000	10000	89700	85900	114	76	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712989
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3276450 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	01/05/23 11:32	
Lithium, Dissolved	ug/L	ND	20.0	6.2	01/05/23 11:32	
Manganese, Dissolved	ug/L	ND	10.0	2.5	01/05/23 11:32	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	01/05/23 11:32	

LABORATORY CONTROL SAMPLE: 3276451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10100	101	80-120	
Lithium, Dissolved	ug/L	1000	1030	103	80-120	
Manganese, Dissolved	ug/L	1000	980	98	80-120	
Molybdenum, Dissolved	ug/L	1000	1050	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3276452 3276453

Parameter	Units	50334052003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	123	10000	10000	9990	10200	99	101	75-125	3	20	
Lithium, Dissolved	ug/L	59.6	1000	1000	1100	1130	104	107	75-125	2	20	
Manganese, Dissolved	ug/L	198	1000	1000	1170	1180	97	98	75-125	1	20	
Molybdenum, Dissolved	ug/L	374	1000	1000	1440	1460	107	108	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712344
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50334142001

METHOD BLANK: 3274283 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.13	12/28/22 00:51	
Arsenic	ug/L	ND	1.0	0.10	12/28/22 00:51	
Beryllium	ug/L	ND	0.20	0.026	12/28/22 00:51	
Cobalt	ug/L	ND	1.0	0.082	12/28/22 00:51	
Selenium	ug/L	ND	1.0	0.44	12/28/22 00:51	
Thallium	ug/L	ND	1.0	0.072	12/28/22 00:51	

LABORATORY CONTROL SAMPLE: 3274284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.7	104	80-120	
Arsenic	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	40.7	102	80-120	
Cobalt	ug/L	40	41.8	105	80-120	
Selenium	ug/L	40	39.9	100	80-120	
Thallium	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3274285 3274286

Parameter	Units	50334118001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	41.2	104	103	75-125	1	20	
Arsenic	ug/L	ND	40	40	39.4	40.0	97	99	75-125	2	20	
Beryllium	ug/L	ND	40	40	39.0	38.8	98	97	75-125	1	20	
Cobalt	ug/L	ND	40	40	40.0	40.2	98	99	75-125	0	20	
Selenium	ug/L	ND	40	40	44.1	46.3	110	115	75-125	5	20	
Thallium	ug/L	ND	40	40	42.0	42.3	105	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 713234
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3277420 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	0.10	01/03/23 14:23	

LABORATORY CONTROL SAMPLE: 3277421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	38.1	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277422 3277423

Parameter	Units	50334290002 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	1.2	40	40	50.9	51.1	124	125	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712629
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3275363 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	12/27/22 16:04	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	12/27/22 16:04	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	12/27/22 16:04	

LABORATORY CONTROL SAMPLE: 3275364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.8	106	90-110	

SAMPLE DUPLICATE: 3275365

Parameter	Units	50334142001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	521	528	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	489	498	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	31.8	30.0	6	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712506
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3274936 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	12/27/22 08:58	

LABORATORY CONTROL SAMPLE: 3274937

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

SAMPLE DUPLICATE: 3274938

Parameter	Units	50334070001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1090	1090	0	10	

SAMPLE DUPLICATE: 3275167

Parameter	Units	50334167001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13800	14300	4	10	

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

QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 713760
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: 50334142001

SAMPLE DUPLICATE: 3279299

Parameter	Units	50334121001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	0	2	H3

SAMPLE DUPLICATE: 3279300

Parameter	Units	50334245002 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 P5R1
Pace Project No.: 50334142

QC Batch: 712430
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: 50334142001

METHOD BLANK: 3274743 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	12/23/22 10:32	

LABORATORY CONTROL SAMPLE: 3274744

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3274745 3274746

Parameter	Units	50334142001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.46	93	88	90-110	5	20	M0

MATRIX SPIKE SAMPLE: 3274747

Parameter	Units	50334206001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.54	107	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712636
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50334142001

METHOD BLANK: 3275390 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	12/27/22 18:02	H3,N2

LABORATORY CONTROL SAMPLE: 3275391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.99	99	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3275392 3275393

Parameter	Units	50334118001 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	2.0	5	5	7.0	7.5	100	110	90-110	7	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712173
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: 50334142001

METHOD BLANK: 3273396 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	12/21/22 17:29	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	12/21/22 17:29	

LABORATORY CONTROL SAMPLE: 3273397

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	0.97	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3273398 3273399

Parameter	Units	50334122007 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	0.78	1	1	1.8	1.8	100	99	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.97	0.98	97	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3273400

Parameter	Units	50334122002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.96	95	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.98	98	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712707
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: 50334142001

METHOD BLANK: 3275560 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	12/28/22 22:37	

LABORATORY CONTROL SAMPLE: 3275561

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3275562 3275563

Parameter	Units	50334118006 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	0.86			2.3	2.5				9		

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712859
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3276037 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	12/29/22 14:33	

LABORATORY CONTROL SAMPLE: 3276038

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: 3276039 3276040

Parameter	Units	50334118003 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	12.0	11.5	99	95	80-120	4	20	

MATRIX SPIKE SAMPLE: 3276041

Parameter	Units	50334118004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.1	10	12.0	99	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 712865
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334142001

METHOD BLANK: 3276060 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	12/30/22 20:27	

LABORATORY CONTROL SAMPLE: 3276061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	10	10.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3276062 3276063

Parameter	Units	50333840002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	10.5	10.6	100	102	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3276064 3276065

Parameter	Units	50334118001 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	2.5	10	10	12.8	12.7	103	102	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50334142

Sample: MW-33D2 **Lab ID: 50334142001** Collected: 12/21/22 12:15 Received: 12/21/22 16:30 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	**0.283 ± 0.439 (0.761) C:NA T:93%**	pCi/L	01/10/23 17:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.509 ± 0.338 (0.638) C:94% T:87%**	pCi/L	01/11/23 14:58	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.792 ± 0.777 (1.40)**	pCi/L	01/12/23 15:59	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 557356
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: 50334142001

METHOD BLANK: 2707190 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.777 ± 0.374 (0.623) C:90% T:82%	pCi/L	01/11/23 14:57	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50334142

QC Batch: 557355
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: 50334142001

METHOD BLANK: 2707189 Matrix: Water
Associated Lab Samples: 50334142001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.236 (0.530) C:NA T:99%	pCi/L	01/10/23 16:58	

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QUALIFIERS

Project: Petersburg P5R1
Pace Project No.: 50334142

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: Petersburg P5R1
Pace Project No.: 50334142

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50334142001	**MW-33D2**	EPA 9056	712184		
50334142001	**MW-33D2**	EPA 3010	713149	EPA 6010	713698
50334142001	**MW-33D2**	EPA 3010	712989	EPA 6010	713581
50334142001	**MW-33D2**	EPA 200.2	712344	EPA 6020	712606
50334142001	**MW-33D2**	EPA 200.2	713234	EPA 6020	713240
50334142001	**MW-33D2**	EPA 903.1	557355		
50334142001	**MW-33D2**	EPA 904.0	557356		
50334142001	**MW-33D2**	Total Radium Calculation	559759		
50334142001	**MW-33D2**	SM 2320B	712629		
50334142001	**MW-33D2**	SM 2540C	712506		
50334142001	**MW-33D2**	SM 4500-H+B	713760		
50334142001	**MW-33D2**	SM 4500-S2-D	712430		
50334142001	**MW-33D2**	HACH 8146	712636		
50334142001	**MW-33D2**	EPA 353.2	712173		
50334142001	**MW-33D2**	EPA 365.1	712707	EPA 365.1	712946
50334142001	**MW-33D2**	SM 5310C	712859		
50334142001	**MW-33D2**	SM 5310C	712865		

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WO# : 50334142

50334142

CHAIN-OF-CUSTODY / Analytical Request Document

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

Required Client Information:

Company:	Atlas Indianapolis
Address:	7988 Centerpoint Drive Suite 100
	Indianapolis, IN 46256
Email:	mark.breting@oneatlas.com
Phone:	(317)579-4082 Fax:
Requested Due Date:	

Project Information:

Report To:	Mark Breting
Copy To:	
Purchase Order #:	
Project Name:	Petersburg ~~P4R4~~ P5R1
Project #:	

Section C
Invoice Information:

Attention:	Accounts Payable - Paula Sedam
Company Name:	Atlas Indianapolis
Address:	
Pace Quote:	
Pace Project Manager:	Hayden Putt
Pace Profile #:	10498/~~28~~ 30

Regulatory Agency

State / Location
IN

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																		Y				Y								
1	MW33D2	WT	G	12/21/22	1215				11	X	X	X		X					X	X	X	X	X	X	X	X	X	X			001
2	MW-44I	WT																	X	X	X	X	X	X	X	X	X	X			
3	MW-44D	WT																	X	X	X	X	X	X	X	X	X	X			
4	MW-45S	WT																	X	X	X	X	X	X	X	X	X	X			
5	MW-45I	WT																	X	X	X	X	X	X	X	X	X	X			
6	MW-45D	WT																	X	X	X	X	X	X	X	X	X	X			
7	MW-46S	WT																	X	X	X	X	X	X	X	X	X	X			
8	MW-46I	WT																	X	X	X	X	X	X	X	X	X	X			
9	MW-46D	WT																	X	X	X	X	X	X	X	X	X	X			
10	MW-47S	WT																	X	X	X	X	X	X	X	X	X	X			
11	MW-47I	WT																	X	X	X	X	X	X	X	X	X	X			
12	MW-47D	WT																	X	X	X	X	X	X	X	X	X	X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							TEMP in C	Received on Ice (Y/N)	Custody Seal Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Al, Ba, B, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Mohammed Bazlamit	12/21/22	1630	R. Clemmons	12-21-22	16:30	7.1	y	N	y
6020 (Be, Co, As, Se, Sb)										
** Dissolved FF 6010 (Mo, Mn)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazlamit

SIGNATURE of SAMPLER: DATE Signed: 12/21/22

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: RC 12-21-22 11:22

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(s):** 7.1/7.1 | | | |
(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
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:	
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 RC 12-21-22	✓	✓
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: Samples dates/times matched COC but ID read MW-40D instead of MW33D2 RC 12-21-22

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
COC Line Item	WGFU	DI	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2																																	
3																																	
4																																	
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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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

March 21, 2023

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

RE: Project: Petersburg P4R5
Pace Project No.: 50334497

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on December 30, 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mr. Robert Miller, Haley & Aldrich

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(317)228-3100

CERTIFICATIONS

Project: Petersburg P4R5
Pace Project No.: 50334497

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50334497001	**AP-9I**	Water	12/29/22 10:20	12/30/22 09:20
50334497002	**AP-9B**	Water	12/29/22 10:30	12/30/22 09:20
50334497003	**AP-10I**	Water	12/29/22 13:00	12/30/22 09:20
50334497004	**MW-15B**	Water	12/29/22 12:45	12/30/22 09:20

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50334497001	**AP-9I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50334497002	**AP-9B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50334497003	**AP-10I**	EPA 9056	ADM	3	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50334497004	**MW-15B**	EPA 9056	ADM	3	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 6010	JPK	3	PASI-I
		EPA 6020	DMT	5	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TAY	3	PASI-I
		SM 2540C	MTW	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	ZM	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	ZM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50334497001	**AP-9I**					
EPA 9056	Chloride	108	mg/L	2.5	01/05/23 18:34	
EPA 9056	Fluoride	0.18	mg/L	0.10	01/05/23 18:17	
EPA 9056	Sulfate	1530	mg/L	25.0	01/05/23 18:50	
EPA 6010	Barium	37.3	ug/L	10.0	01/11/23 15:32	
EPA 6010	Boron	20800	ug/L	100	01/11/23 15:32	
EPA 6010	Calcium	616000	ug/L	5000	01/11/23 16:31	
EPA 6010	Iron	4270	ug/L	100	01/11/23 15:32	
EPA 6010	Lithium	38.4	ug/L	20.0	01/11/23 15:32	
EPA 6010	Magnesium	9170	ug/L	1000	01/11/23 15:32	
EPA 6010	Manganese	1520	ug/L	10.0	01/11/23 15:32	
EPA 6010	Molybdenum	1120	ug/L	10.0	01/11/23 15:32	
EPA 6010	Potassium	32400	ug/L	1000	01/11/23 15:32	
EPA 6010	Silica	9440	ug/L	450	01/11/23 15:32	N2
EPA 6010	Sodium	39400	ug/L	1000	01/11/23 15:32	
EPA 6010	Iron, Dissolved	4020	ug/L	100	01/11/23 03:36	
EPA 6010	Manganese, Dissolved	1540	ug/L	10.0	01/11/23 03:36	
EPA 6010	Molybdenum, Dissolved	1140	ug/L	10.0	01/11/23 03:36	
EPA 6020	Arsenic	3.0	ug/L	1.0	01/04/23 03:08	
EPA 903.1	Radium-226	0.632 ± 0.611 (0.949) C:NA T:75%	pCi/L		01/20/23 13:41	
EPA 904.0	Radium-228	0.679 ± 0.383 (0.678) C:82% T:75%	pCi/L		01/13/23 15:43	
Total Radium Calculation	Total Radium	1.31 ± 0.994 (1.63)	pCi/L		01/23/23 15:14	
SM 2320B	Alkalinity, Total as CaCO3	51.4	mg/L	10.0	01/03/23 12:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	51.4	mg/L	10.0	01/03/23 12:14	
SM 2540C	Total Dissolved Solids	2410	mg/L	40.0	01/03/23 09:15	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	01/10/23 14:09	H3
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	01/05/23 11:36	
SM 5310C	Total Organic Carbon	2.1	mg/L	1.0	01/04/23 12:24	
SM 5310C	Dissolved Organic Carbon	3.0	mg/L	1.0	01/04/23 16:16	
50334497002	**AP-9B**					
EPA 9056	Chloride	48.5	mg/L	2.5	01/05/23 22:07	
EPA 9056	Sulfate	880	mg/L	25.0	01/05/23 22:23	
EPA 6010	Barium	72.9	ug/L	10.0	01/11/23 15:36	
EPA 6010	Boron	7410	ug/L	100	01/11/23 15:36	
EPA 6010	Calcium	358000	ug/L	3000	01/11/23 16:34	
EPA 6010	Iron	5960	ug/L	100	01/11/23 15:36	
EPA 6010	Magnesium	53300	ug/L	1000	01/11/23 15:36	
EPA 6010	Manganese	4070	ug/L	10.0	01/11/23 15:36	
EPA 6010	Molybdenum	165	ug/L	10.0	01/11/23 15:36	
EPA 6010	Potassium	7790	ug/L	1000	01/11/23 15:36	
EPA 6010	Silica	16900	ug/L	450	01/11/23 15:36	N2

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

SUMMARY OF DETECTION

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50334497002	**AP-9B**					
EPA 6010	Sodium	22700	ug/L	1000	01/11/23 15:36	
EPA 6010	Iron, Dissolved	6320	ug/L	100	01/11/23 03:39	
EPA 6010	Manganese, Dissolved	4520	ug/L	10.0	01/11/23 03:39	
EPA 6010	Molybdenum, Dissolved	185	ug/L	10.0	01/11/23 03:39	
EPA 6020	Arsenic	5.3	ug/L	1.0	01/04/23 03:12	
EPA 6020	Cobalt	7.4	ug/L	1.0	01/04/23 03:12	
EPA 903.1	Radium-226	0.355 ± 0.466 (0.776) C:NA T:83%	pCi/L		01/20/23 13:41	
EPA 904.0	Radium-228	1.43 ± 0.471 (0.588) C:84% T:83%	pCi/L		01/13/23 15:43	
Total Radium Calculation	Total Radium	1.79 ± 0.937 (1.36)	pCi/L		01/23/23 15:14	
SM 2320B	Alkalinity, Total as CaCO3	343	mg/L	10.0	01/03/23 12:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	343	mg/L	10.0	01/03/23 12:14	
SM 2540C	Total Dissolved Solids	1700	mg/L	20.0	01/03/23 09:16	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	01/10/23 14:10	H3
SM 5310C	Total Organic Carbon	4.0	mg/L	1.0	01/04/23 12:35	
SM 5310C	Dissolved Organic Carbon	4.0	mg/L	1.0	01/04/23 16:27	
50334497003	**AP-10I**					
EPA 9056	Chloride	121	mg/L	2.5	01/05/23 23:28	
EPA 9056	Sulfate	969	mg/L	25.0	01/05/23 23:45	
EPA 6010	Barium	76.3	ug/L	10.0	01/11/23 15:39	
EPA 6010	Boron	11600	ug/L	100	01/11/23 15:39	
EPA 6010	Calcium	384000	ug/L	3000	01/11/23 16:38	
EPA 6010	Iron	6010	ug/L	100	01/11/23 15:39	
EPA 6010	Magnesium	40600	ug/L	1000	01/11/23 15:39	
EPA 6010	Manganese	2540	ug/L	10.0	01/11/23 15:39	
EPA 6010	Molybdenum	106	ug/L	10.0	01/11/23 15:39	
EPA 6010	Potassium	10300	ug/L	1000	01/11/23 15:39	
EPA 6010	Silica	11600	ug/L	450	01/11/23 15:39	N2
EPA 6010	Sodium	56600	ug/L	1000	01/11/23 15:39	
EPA 6010	Iron, Dissolved	6770	ug/L	100	01/11/23 03:42	
EPA 6010	Manganese, Dissolved	2920	ug/L	10.0	01/11/23 03:42	
EPA 6010	Molybdenum, Dissolved	122	ug/L	10.0	01/11/23 03:42	
EPA 903.1	Radium-226	0.850 ± 0.720 (1.09) C:NA T:82%	pCi/L		01/20/23 13:41	
EPA 904.0	Radium-228	1.17 ± 0.500 (0.834) C:83% T:82%	pCi/L		01/13/23 15:43	

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50334497003	**AP-10I**					
Total Radium Calculation	Total Radium	2.02 ± 1.22 (1.92)	pCi/L		01/23/23 15:14	
SM 2320B	Alkalinity, Total as CaCO3	240	mg/L	10.0	01/03/23 12:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	240	mg/L	10.0	01/03/23 12:14	
SM 2540C	Total Dissolved Solids	1430	mg/L	20.0	01/03/23 09:16	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	01/10/23 14:11	H3
EPA 365.1	Phosphate as P04	0.24	mg/L	0.15	01/05/23 11:44	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	01/04/23 12:47	
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	01/04/23 16:39	
50334497004	**MW-15B**					
EPA 9056	Chloride	47.3	mg/L	2.5	01/06/23 00:17	
EPA 9056	Sulfate	767	mg/L	25.0	01/06/23 00:34	
EPA 6010	Barium	68.6	ug/L	10.0	01/11/23 15:57	
EPA 6010	Boron	1290	ug/L	100	01/11/23 15:57	
EPA 6010	Calcium	257000	ug/L	2000	01/11/23 16:41	
EPA 6010	Iron	7760	ug/L	100	01/11/23 15:57	
EPA 6010	Lithium	794	ug/L	20.0	01/11/23 15:57	
EPA 6010	Magnesium	34400	ug/L	1000	01/11/23 15:57	
EPA 6010	Manganese	1780	ug/L	10.0	01/11/23 15:57	
EPA 6010	Molybdenum	10.6	ug/L	10.0	01/11/23 15:57	
EPA 6010	Potassium	76400	ug/L	1000	01/11/23 15:57	
EPA 6010	Silica	15600	ug/L	450	01/11/23 15:57	N2
EPA 6010	Sodium	51200	ug/L	1000	01/11/23 15:57	
EPA 6010	Iron, Dissolved	8810	ug/L	100	01/11/23 03:44	
EPA 6010	Manganese, Dissolved	2090	ug/L	10.0	01/11/23 03:44	
EPA 6010	Molybdenum, Dissolved	13.3	ug/L	10.0	01/11/23 03:44	
EPA 903.1	Radium-226	0.258 ± 0.464 (0.817) C:NA T:90%	pCi/L		01/20/23 13:41	
EPA 904.0	Radium-228	1.32 ± 0.491 (0.751) C:81% T:90%	pCi/L		01/13/23 15:44	
Total Radium Calculation	Total Radium	1.58 ± 0.955 (1.57)	pCi/L		01/23/23 15:14	
SM 2320B	Alkalinity, Total as CaCO3	203	mg/L	10.0	01/03/23 12:14	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	203	mg/L	10.0	01/03/23 12:14	
SM 2540C	Total Dissolved Solids	1870	mg/L	20.0	01/03/23 09:16	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	01/10/23 14:13	H3
EPA 365.1	Phosphate as P04	0.43	mg/L	0.15	01/05/23 11:45	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	01/04/23 17:01	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	01/04/23 16:50	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9I **Lab ID: 50334497001** Collected: 12/29/22 10:20 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**108**	mg/L	2.5	0.67	10		01/05/23 18:34	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	0.017	1		01/05/23 18:17	16984-48-8	
Sulfate	**1530**	mg/L	25.0	8.5	100		01/05/23 18:50	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	54.4	1	01/10/23 15:39	01/11/23 15:32	7429-90-5	
Barium	**37.3**	ug/L	10.0	1.3	1	01/10/23 15:39	01/11/23 15:32	7440-39-3	
Boron	**20800**	ug/L	100	61.4	1	01/10/23 15:39	01/11/23 15:32	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	01/10/23 15:39	01/11/23 15:32	7440-43-9	
Calcium	**616000**	ug/L	5000	442	5	01/10/23 15:39	01/11/23 16:31	7440-70-2	
Iron	**4270**	ug/L	100	48.8	1	01/10/23 15:39	01/11/23 15:32	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	01/10/23 15:39	01/11/23 15:32	7439-92-1	
Lithium	**38.4**	ug/L	20.0	6.2	1	01/10/23 15:39	01/11/23 15:32	7439-93-2	
Magnesium	**9170**	ug/L	1000	43.0	1	01/10/23 15:39	01/11/23 15:32	7439-95-4	
Manganese	**1520**	ug/L	10.0	5.4	1	01/10/23 15:39	01/11/23 15:32	7439-96-5	
Molybdenum	**1120**	ug/L	10.0	2.0	1	01/10/23 15:39	01/11/23 15:32	7439-98-7	
Potassium	**32400**	ug/L	1000	200	1	01/10/23 15:39	01/11/23 15:32	7440-09-7	
Silica	**9440**	ug/L	450		1	01/10/23 15:39	01/11/23 15:32	7631-86-9	N2
Sodium	**39400**	ug/L	1000	284	1	01/10/23 15:39	01/11/23 15:32	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**4020**	ug/L	100	48.8	1	01/10/23 16:50	01/11/23 03:36	7439-89-6	
Manganese, Dissolved	**1540**	ug/L	10.0	2.5	1	01/10/23 16:50	01/11/23 03:36	7439-96-5	
Molybdenum, Dissolved	**1140**	ug/L	10.0	3.7	1	01/10/23 16:50	01/11/23 03:36	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	01/03/23 17:15	01/04/23 03:08	7440-36-0	
Arsenic	**3.0**	ug/L	1.0	0.12	1	01/03/23 17:15	01/04/23 03:08	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	01/03/23 17:15	01/05/23 06:26	7440-41-7	
Cobalt	ND	ug/L	1.0	0.071	1	01/03/23 17:15	01/04/23 03:08	7440-48-4	
Selenium	ND	ug/L	1.0	0.19	1	01/03/23 17:15	01/04/23 03:08	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**51.4**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Bicarbonate (CaCO3)	**51.4**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		01/03/23 12:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2410**	mg/L	40.0	40.0	1		01/03/23 09:15		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9I **Lab ID: 50334497001** Collected: 12/29/22 10:20 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		01/10/23 14:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		01/03/23 10:04	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		01/13/23 15:38	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		12/30/22 16:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		12/30/22 16:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.17**	mg/L	0.15	0.15	1	01/03/23 10:00	01/05/23 11:36		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.1**	mg/L	1.0	0.14	1		01/04/23 12:24	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**3.0**	mg/L	1.0	0.14	1		01/04/23 16:16		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9B **Lab ID: 50334497002** Collected: 12/29/22 10:30 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**48.5**	mg/L	2.5	0.67	10		01/05/23 22:07	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		01/05/23 21:50	16984-48-8	
Sulfate	**880**	mg/L	25.0	8.5	100		01/05/23 22:23	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	54.4	1	01/10/23 15:39	01/11/23 15:36	7429-90-5	
Barium	**72.9**	ug/L	10.0	1.3	1	01/10/23 15:39	01/11/23 15:36	7440-39-3	
Boron	**7410**	ug/L	100	61.4	1	01/10/23 15:39	01/11/23 15:36	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	01/10/23 15:39	01/11/23 15:36	7440-43-9	
Calcium	**358000**	ug/L	3000	265	3	01/10/23 15:39	01/11/23 16:34	7440-70-2	
Iron	**5960**	ug/L	100	48.8	1	01/10/23 15:39	01/11/23 15:36	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	01/10/23 15:39	01/11/23 15:36	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	01/10/23 15:39	01/11/23 15:36	7439-93-2	
Magnesium	**53300**	ug/L	1000	43.0	1	01/10/23 15:39	01/11/23 15:36	7439-95-4	
Manganese	**4070**	ug/L	10.0	5.4	1	01/10/23 15:39	01/11/23 15:36	7439-96-5	
Molybdenum	**165**	ug/L	10.0	2.0	1	01/10/23 15:39	01/11/23 15:36	7439-98-7	
Potassium	**7790**	ug/L	1000	200	1	01/10/23 15:39	01/11/23 15:36	7440-09-7	
Silica	**16900**	ug/L	450		1	01/10/23 15:39	01/11/23 15:36	7631-86-9	N2
Sodium	**22700**	ug/L	1000	284	1	01/10/23 15:39	01/11/23 15:36	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**6320**	ug/L	100	48.8	1	01/10/23 16:50	01/11/23 03:39	7439-89-6	
Manganese, Dissolved	**4520**	ug/L	10.0	2.5	1	01/10/23 16:50	01/11/23 03:39	7439-96-5	
Molybdenum, Dissolved	**185**	ug/L	10.0	3.7	1	01/10/23 16:50	01/11/23 03:39	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	0.080	1	01/03/23 17:15	01/04/23 03:12	7440-36-0	
Arsenic	**5.3**	ug/L	1.0	0.12	1	01/03/23 17:15	01/04/23 03:12	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	01/03/23 17:15	01/05/23 06:31	7440-41-7	
Cobalt	**7.4**	ug/L	1.0	0.071	1	01/03/23 17:15	01/04/23 03:12	7440-48-4	
Selenium	ND	ug/L	1.0	0.19	1	01/03/23 17:15	01/04/23 03:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**343**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Bicarbonate (CaCO3)	**343**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		01/03/23 12:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1700**	mg/L	20.0	20.0	1		01/03/23 09:16		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9B **Lab ID: 50334497002** Collected: 12/29/22 10:30 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		01/10/23 14:10		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		01/03/23 10:04	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		01/13/23 15:38	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		12/30/22 16:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		12/30/22 16:25	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	01/03/23 11:30	01/05/23 11:42		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**4.0**	mg/L	1.0	0.14	1		01/04/23 12:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**4.0**	mg/L	1.0	0.14	1		01/04/23 16:27		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-10I **Lab ID: 50334497003** Collected: 12/29/22 13:00 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**121**	mg/L	2.5	0.67	10		01/05/23 23:28	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		01/05/23 23:12	16984-48-8	
Sulfate	**969**	mg/L	25.0	8.5	100		01/05/23 23:45	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	54.4	1	01/10/23 15:39	01/11/23 15:39	7429-90-5	
Barium	**76.3**	ug/L	10.0	1.3	1	01/10/23 15:39	01/11/23 15:39	7440-39-3	
Boron	**11600**	ug/L	100	61.4	1	01/10/23 15:39	01/11/23 15:39	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	01/10/23 15:39	01/11/23 15:39	7440-43-9	
Calcium	**384000**	ug/L	3000	265	3	01/10/23 15:39	01/11/23 16:38	7440-70-2	
Iron	**6010**	ug/L	100	48.8	1	01/10/23 15:39	01/11/23 15:39	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	01/10/23 15:39	01/11/23 15:39	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	01/10/23 15:39	01/11/23 15:39	7439-93-2	
Magnesium	**40600**	ug/L	1000	43.0	1	01/10/23 15:39	01/11/23 15:39	7439-95-4	
Manganese	**2540**	ug/L	10.0	5.4	1	01/10/23 15:39	01/11/23 15:39	7439-96-5	
Molybdenum	**106**	ug/L	10.0	2.0	1	01/10/23 15:39	01/11/23 15:39	7439-98-7	
Potassium	**10300**	ug/L	1000	200	1	01/10/23 15:39	01/11/23 15:39	7440-09-7	
Silica	**11600**	ug/L	450		1	01/10/23 15:39	01/11/23 15:39	7631-86-9	N2
Sodium	**56600**	ug/L	1000	284	1	01/10/23 15:39	01/11/23 15:39	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Iron, Dissolved	**6770**	ug/L	100	48.8	1	01/10/23 16:50	01/11/23 03:42	7439-89-6	
Manganese, Dissolved	**2920**	ug/L	10.0	2.5	1	01/10/23 16:50	01/11/23 03:42	7439-96-5	
Molybdenum, Dissolved	**122**	ug/L	10.0	3.7	1	01/10/23 16:50	01/11/23 03:42	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	01/03/23 17:15	01/04/23 03:15	7440-36-0	
Arsenic	ND	ug/L	1.0	0.12	1	01/03/23 17:15	01/04/23 03:15	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	01/03/23 17:15	01/05/23 06:35	7440-41-7	
Cobalt	ND	ug/L	1.0	0.071	1	01/03/23 17:15	01/04/23 03:15	7440-48-4	
Selenium	ND	ug/L	1.0	0.19	1	01/03/23 17:15	01/04/23 03:15	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**240**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Bicarbonate (CaCO3)	**240**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		01/03/23 12:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1430**	mg/L	20.0	20.0	1		01/03/23 09:16		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-10I **Lab ID: 50334497003** Collected: 12/29/22 13:00 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		01/10/23 14:11		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		01/03/23 10:04	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		01/13/23 15:39	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		12/30/22 16:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		12/30/22 16:29	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.24**	mg/L	0.15	0.15	1	01/03/23 11:30	01/05/23 11:44		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.8**	mg/L	1.0	0.14	1		01/04/23 12:47	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.1**	mg/L	1.0	0.14	1		01/04/23 16:39		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: MW-15B **Lab ID: 50334497004** Collected: 12/29/22 12:45 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**47.3**	mg/L	2.5	0.67	10		01/06/23 00:17	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		01/06/23 00:01	16984-48-8	
Sulfate	**767**	mg/L	25.0	8.5	100		01/06/23 00:34	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	54.4	1	01/10/23 15:39	01/11/23 15:57	7429-90-5	
Barium	**68.6**	ug/L	10.0	1.3	1	01/10/23 15:39	01/11/23 15:57	7440-39-3	
Boron	**1290**	ug/L	100	61.4	1	01/10/23 15:39	01/11/23 15:57	7440-42-8	
Cadmium	ND	ug/L	2.0	0.48	1	01/10/23 15:39	01/11/23 15:57	7440-43-9	
Calcium	**257000**	ug/L	2000	177	2	01/10/23 15:39	01/11/23 16:41	7440-70-2	
Iron	**7760**	ug/L	100	48.8	1	01/10/23 15:39	01/11/23 15:57	7439-89-6	
Lead	ND	ug/L	10.0	3.9	1	01/10/23 15:39	01/11/23 15:57	7439-92-1	
Lithium	**794**	ug/L	20.0	6.2	1	01/10/23 15:39	01/11/23 15:57	7439-93-2	
Magnesium	**34400**	ug/L	1000	43.0	1	01/10/23 15:39	01/11/23 15:57	7439-95-4	
Manganese	**1780**	ug/L	10.0	5.4	1	01/10/23 15:39	01/11/23 15:57	7439-96-5	
Molybdenum	**10.6**	ug/L	10.0	2.0	1	01/10/23 15:39	01/11/23 15:57	7439-98-7	
Potassium	**76400**	ug/L	1000	200	1	01/10/23 15:39	01/11/23 15:57	7440-09-7	
Silica	**15600**	ug/L	450		1	01/10/23 15:39	01/11/23 15:57	7631-86-9	N2
Sodium	**51200**	ug/L	1000	284	1	01/10/23 15:39	01/11/23 15:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**8810**	ug/L	100	48.8	1	01/10/23 16:50	01/11/23 03:44	7439-89-6	
Manganese, Dissolved	**2090**	ug/L	10.0	2.5	1	01/10/23 16:50	01/11/23 03:44	7439-96-5	
Molybdenum, Dissolved	**13.3**	ug/L	10.0	3.7	1	01/10/23 16:50	01/11/23 03:44	7439-98-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	01/03/23 17:15	01/04/23 03:19	7440-36-0	
Arsenic	ND	ug/L	1.0	0.12	1	01/03/23 17:15	01/04/23 03:19	7440-38-2	
Beryllium	ND	ug/L	0.20	0.021	1	01/03/23 17:15	01/05/23 06:40	7440-41-7	
Cobalt	ND	ug/L	1.0	0.071	1	01/03/23 17:15	01/04/23 03:19	7440-48-4	
Selenium	ND	ug/L	1.0	0.19	1	01/03/23 17:15	01/04/23 03:19	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**203**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Bicarbonate (CaCO3)	**203**	mg/L	10.0	10.0	1		01/03/23 12:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		01/03/23 12:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1870**	mg/L	20.0	20.0	1		01/03/23 09:16		

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ANALYTICAL RESULTS

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: MW-15B **Lab ID: 50334497004** Collected: 12/29/22 12:45 Received: 12/30/22 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.10	1		01/10/23 14:13		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		01/03/23 10:04	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.096	1		01/13/23 15:39	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		12/30/22 16:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		12/30/22 16:27	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.43**	mg/L	0.15	0.15	1	01/03/23 11:30	01/05/23 11:45		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.3**	mg/L	1.0	0.14	1		01/04/23 17:01	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.7**	mg/L	1.0	0.14	1		01/04/23 16:50		

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713351
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277717 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	01/05/23 16:56	
Fluoride	mg/L	ND	0.10	0.017	01/05/23 16:56	
Sulfate	mg/L	ND	0.25	0.085	01/05/23 16:56	

LABORATORY CONTROL SAMPLE: 3277718

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	0.56	112	80-120	
Sulfate	mg/L	2.5	2.6	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277719 3277720

Parameter	Units	50334493001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	37.7	12.5	12.5	46.9	46.9	74	74	80-120	0	15	M0
Fluoride	mg/L	0.27	0.5	0.5	0.79	0.79	104	104	80-120	0	15	
Sulfate	mg/L	39.4	25	25	62.7	62.8	93	93	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713903
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3279959 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	54.4	01/11/23 14:28	
Barium	ug/L	ND	10.0	1.3	01/11/23 14:28	
Boron	ug/L	ND	100	61.4	01/11/23 14:28	
Cadmium	ug/L	ND	2.0	0.48	01/11/23 14:28	
Calcium	ug/L	ND	1000	88.4	01/11/23 14:28	
Iron	ug/L	ND	100	48.8	01/11/23 14:28	
Lead	ug/L	ND	10.0	3.9	01/11/23 14:28	
Lithium	ug/L	ND	20.0	6.2	01/11/23 14:28	
Magnesium	ug/L	ND	1000	43.0	01/11/23 14:28	
Manganese	ug/L	ND	10.0	5.4	01/11/23 14:28	
Molybdenum	ug/L	ND	10.0	2.0	01/11/23 14:28	
Potassium	ug/L	ND	1000	200	01/11/23 14:28	
Silica	ug/L	ND	450		01/11/23 14:28	N2
Sodium	ug/L	ND	1000	284	01/11/23 14:28	

LABORATORY CONTROL SAMPLE: 3279960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	80-120	
Barium	ug/L	1000	994	99	80-120	
Boron	ug/L	1000	1020	102	80-120	
Cadmium	ug/L	1000	984	98	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Iron	ug/L	10000	9710	97	80-120	
Lead	ug/L	1000	952	95	80-120	
Lithium	ug/L	1000	1050	105	80-120	
Magnesium	ug/L	10000	9690	97	80-120	
Manganese	ug/L	1000	951	95	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	10700	100	80-120	N2
Sodium	ug/L	10000	10300	103	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3279961 3279962

Parameter	Units	50333977021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	134000	50000	50000	202000	209000	135	150	75-125	4	20	M0,P6
Barium	ug/L	1180	5000	5000	6120	6300	99	102	75-125	3	20	
Boron	ug/L	ND	5000	5000	5520	5720	105	109	75-125	3	20	
Cadmium	ug/L	ND	5000	5000	5000	5120	100	102	75-125	2	20	
Calcium	ug/L	1560000	50000	50000	1560000	1680000	4	241	75-125	7	20	E,P6
Iron	ug/L	580000	50000	50000	560000	582000	-40	2	75-125	4	20	P6
Lead	ug/L	435	5000	5000	4870	4930	89	90	75-125	1	20	
Lithium	ug/L	166	5000	5000	5710	5810	111	113	75-125	2	20	
Magnesium	ug/L	401000	50000	50000	396000	417000	-10	33	75-125	5	20	P6
Manganese	ug/L	17300	5000	5000	20000	20900	53	72	75-125	5	20	M3
Molybdenum	ug/L	52.8	5000	5000	5200	5320	103	105	75-125	2	20	
Potassium	ug/L	40300	50000	50000	98400	101000	116	122	75-125	3	20	
Silica	ug/L	326000	53500	53500	538000	584000	396	482	75-125	8	20	N2
Sodium	ug/L	64600	50000	50000	121000	128000	112	128	75-125	6	20	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713901
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3279952 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	01/11/23 03:31	
Manganese, Dissolved	ug/L	ND	10.0	2.5	01/11/23 03:31	
Molybdenum, Dissolved	ug/L	ND	10.0	3.7	01/11/23 03:31	

LABORATORY CONTROL SAMPLE: 3279953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10100	101	80-120	
Manganese, Dissolved	ug/L	1000	1000	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1080	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3279954 3279955

Parameter	Units	50334590003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	<100	10000	10000	10200	10600	102	106	75-125	3	20	
Manganese, Dissolved	ug/L	<10.0	1000	1000	1010	1040	101	104	75-125	3	20	
Molybdenum, Dissolved	ug/L	<10.0	1000	1000	1130	1150	113	115	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713235
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277424 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.080	01/04/23 02:57	
Arsenic	ug/L	ND	1.0	0.12	01/04/23 02:57	
Beryllium	ug/L	ND	0.20	0.021	01/05/23 06:11	
Cobalt	ug/L	ND	1.0	0.071	01/04/23 02:57	
Selenium	ug/L	ND	1.0	0.19	01/04/23 02:57	

LABORATORY CONTROL SAMPLE: 3277425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	106	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Beryllium	ug/L	40	40.7	102	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Selenium	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277426 3277427

Parameter	Units	50334552016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.080	40	40	43.1	43.6	108	109	75-125	1	20	
Arsenic	ug/L	1.1	40	40	39.2	39.2	95	95	75-125	0	20	
Beryllium	ug/L	0.026J	40	40	37.5	37.5	94	94	75-125	0	20	CL
Cobalt	ug/L	2.3	40	40	39.4	39.7	93	93	75-125	1	20	
Selenium	ug/L	2.3	40	40	39.2	39.6	92	93	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713255
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277457 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	01/03/23 12:14	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	01/03/23 12:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	01/03/23 12:14	

LABORATORY CONTROL SAMPLE: 3277458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.8	102	90-110	

SAMPLE DUPLICATE: 3277459

Parameter	Units	50334510001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	234	238	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	234	238	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3277460

Parameter	Units	50334510011 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	317	323	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	317	323	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713266
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277495 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	01/03/23 09:15	

LABORATORY CONTROL SAMPLE: 3277496

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

SAMPLE DUPLICATE: 3277497

Parameter	Units	50334494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	17300	17800	3	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 714086
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: 50334497001, 50334497002, 50334497003, 50334497004

SAMPLE DUPLICATE: 3280519

Parameter	Units	50334245003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	2	H3

SAMPLE DUPLICATE: 3280521

Parameter	Units	50334498003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713270 | 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: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277499 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	01/03/23 10:04	

LABORATORY CONTROL SAMPLE: 3277500

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277501 3277502

Parameter	Units	50334464001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.10	0.5	0.5	0.48	0.46	96	93	90-110	3	20	

MATRIX SPIKE SAMPLE: 3277503

Parameter	Units	50334501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.50	100	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 714572
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3282936 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.096	01/13/23 15:37	H3,N2

LABORATORY CONTROL SAMPLE: 3282937

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: 3282938 3282939

Parameter	Units	50334909001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	0.97	0.97	97	97	90-110	0	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713173
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: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277178 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	12/30/22 16:16	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	12/30/22 16:16	

LABORATORY CONTROL SAMPLE: 3277179

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: 3277180 3277181

Parameter	Units	50334497001 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	101	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713258
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: 50334497001

METHOD BLANK: 3277470 Matrix: Water
Associated Lab Samples: 50334497001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	01/05/23 11:28	

LABORATORY CONTROL SAMPLE: 3277471

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277472 3277473

Parameter	Units	50334497001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	0.17			1.6	1.5				6		

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713259
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: 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277474 Matrix: Water
Associated Lab Samples: 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	01/05/23 11:38	

LABORATORY CONTROL SAMPLE: 3277475

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277476 3277477

Parameter	Units	50334497002 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				11		

MATRIX SPIKE SAMPLE: 3277478

Parameter	Units	52109986002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	29.7		32.7			

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713310 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277628 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.14	01/03/23 18:26	

LABORATORY CONTROL SAMPLE: 3277629

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3277630 3277631

Parameter	Units	50334187001 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	12.3	12.3	100	101	80-120	0	20	

MATRIX SPIKE SAMPLE: 3277632

Parameter	Units	50334187002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.5	10	13.7	102	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 713319
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 3277647 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.14	01/04/23 14:32	

LABORATORY CONTROL SAMPLE: 3277648

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: 3277649 3277650

Parameter	Units	50334206005 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	10.1	100	101	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9I **Lab ID: 50334497001** Collected: 12/29/22 10:20 Received: 12/30/22 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.632 ± 0.611 (0.949) C:NA T:75%**	pCi/L	01/20/23 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.679 ± 0.383 (0.678) C:82% T:75%**	pCi/L	01/13/23 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.31 ± 0.994 (1.63)**	pCi/L	01/23/23 15:14	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-9B **Lab ID: 50334497002** Collected: 12/29/22 10:30 Received: 12/30/22 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.355 ± 0.466 (0.776) C:NA T:83%**	pCi/L	01/20/23 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.43 ± 0.471 (0.588) C:84% T:83%**	pCi/L	01/13/23 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.79 ± 0.937 (1.36)**	pCi/L	01/23/23 15:14	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: AP-10I **Lab ID: 50334497003** Collected: 12/29/22 13:00 Received: 12/30/22 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.850 ± 0.720 (1.09) C:NA T:82%**	pCi/L	01/20/23 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.17 ± 0.500 (0.834) C:83% T:82%**	pCi/L	01/13/23 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.02 ± 1.22 (1.92)**	pCi/L	01/23/23 15:14	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

Sample: MW-15B **Lab ID: 50334497004** Collected: 12/29/22 12:45 Received: 12/30/22 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.258 ± 0.464 (0.817) C:NA T:90%**	pCi/L	01/20/23 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.32 ± 0.491 (0.751) C:81% T:90%**	pCi/L	01/13/23 15:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.58 ± 0.955 (1.57)**	pCi/L	01/23/23 15:14	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 558097
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: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 2711049 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.107 ± 0.243 (0.144) C:NA T:87%	pCi/L	01/20/23 13:41	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R5
Pace Project No.: 50334497

QC Batch: 558099
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: 50334497001, 50334497002, 50334497003, 50334497004

METHOD BLANK: 2711055 Matrix: Water
Associated Lab Samples: 50334497001, 50334497002, 50334497003, 50334497004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.194 ± 0.292 (0.629) C:85% T:87%	pCi/L	01/13/23 15:45	

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QUALIFIERS

Project: Petersburg P4R5
Pace Project No.: 50334497

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50334497001	**AP-9I**	EPA 9056	713351		
50334497002	**AP-9B**	EPA 9056	713351		
50334497003	**AP-10I**	EPA 9056	713351		
50334497004	**MW-15B**	EPA 9056	713351		
50334497001	**AP-9I**	EPA 3010	713903	EPA 6010	714247
50334497002	**AP-9B**	EPA 3010	713903	EPA 6010	714247
50334497003	**AP-10I**	EPA 3010	713903	EPA 6010	714247
50334497004	**MW-15B**	EPA 3010	713903	EPA 6010	714247
50334497001	**AP-9I**	EPA 3010	713901	EPA 6010	714152
50334497002	**AP-9B**	EPA 3010	713901	EPA 6010	714152
50334497003	**AP-10I**	EPA 3010	713901	EPA 6010	714152
50334497004	**MW-15B**	EPA 3010	713901	EPA 6010	714152
50334497001	**AP-9I**	EPA 200.2	713235	EPA 6020	713385
50334497002	**AP-9B**	EPA 200.2	713235	EPA 6020	713385
50334497003	**AP-10I**	EPA 200.2	713235	EPA 6020	713385
50334497004	**MW-15B**	EPA 200.2	713235	EPA 6020	713385
50334497001	**AP-9I**	EPA 903.1	558097		
50334497002	**AP-9B**	EPA 903.1	558097		
50334497003	**AP-10I**	EPA 903.1	558097		
50334497004	**MW-15B**	EPA 903.1	558097		
50334497001	**AP-9I**	EPA 904.0	558099		
50334497002	**AP-9B**	EPA 904.0	558099		
50334497003	**AP-10I**	EPA 904.0	558099		
50334497004	**MW-15B**	EPA 904.0	558099		
50334497001	**AP-9I**	Total Radium Calculation	561991		
50334497002	**AP-9B**	Total Radium Calculation	561991		
50334497003	**AP-10I**	Total Radium Calculation	561991		
50334497004	**MW-15B**	Total Radium Calculation	561991		
50334497001	**AP-9I**	SM 2320B	713255		
50334497002	**AP-9B**	SM 2320B	713255		
50334497003	**AP-10I**	SM 2320B	713255		
50334497004	**MW-15B**	SM 2320B	713255		
50334497001	**AP-9I**	SM 2540C	713266		
50334497002	**AP-9B**	SM 2540C	713266		
50334497003	**AP-10I**	SM 2540C	713266		
50334497004	**MW-15B**	SM 2540C	713266		
50334497001	**AP-9I**	SM 4500-H+B	714086		
50334497002	**AP-9B**	SM 4500-H+B	714086		
50334497003	**AP-10I**	SM 4500-H+B	714086		
50334497004	**MW-15B**	SM 4500-H+B	714086		
50334497001	**AP-9I**	SM 4500-S2-D	713270		
50334497002	**AP-9B**	SM 4500-S2-D	713270		
50334497003	**AP-10I**	SM 4500-S2-D	713270		
50334497004	**MW-15B**	SM 4500-S2-D	713270		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R5
Pace Project No.: 50334497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50334497001	**AP-9I**	HACH 8146	714572		
50334497002	**AP-9B**	HACH 8146	714572		
50334497003	**AP-10I**	HACH 8146	714572		
50334497004	**MW-15B**	HACH 8146	714572		
50334497001	**AP-9I**	EPA 353.2	713173		
50334497002	**AP-9B**	EPA 353.2	713173		
50334497003	**AP-10I**	EPA 353.2	713173		
50334497004	**MW-15B**	EPA 353.2	713173		
50334497001	**AP-9I**	EPA 365.1	713258	EPA 365.1	713591
50334497002	**AP-9B**	EPA 365.1	713259	EPA 365.1	713592
50334497003	**AP-10I**	EPA 365.1	713259	EPA 365.1	713592
50334497004	**MW-15B**	EPA 365.1	713259	EPA 365.1	713592
50334497001	**AP-9I**	SM 5310C	713310		
50334497002	**AP-9B**	SM 5310C	713310		
50334497003	**AP-10I**	SM 5310C	713310		
50334497004	**MW-15B**	SM 5310C	713310		
50334497001	**AP-9I**	SM 5310C	713319		
50334497002	**AP-9B**	SM 5310C	713319		
50334497003	**AP-10I**	SM 5310C	713319		
50334497004	**MW-15B**	SM 5310C	713319		

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CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50334497

50334497

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 Sedar
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 P4R4	Pace Project Manager: Hayden Putt
Requested Due Date:	Project #:	Pace Profile #: 10498/28

Regulatory Agency	State / Location
	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
																		Y/N				Y			Y						
																		Analyses Test													
1	~~MW-40S~~ AP9I	WT	G	12/29/22	10:20				11	X	X	X		X					X	X	X	X	X	X	X	X	X				OW1
2	~~MW-40I~~ AP9B	WT	G	12/29/22	10:30				11	X	X	X		X					X	X	X	X	X	X	X	X	X				OW2
3	~~MW-40D~~ AP10I	WT	G	12/29/22	1300				11	X	X	X		X					X	X	X	X	X	X	X	X	X				OW3
4	~~MW-41S~~ MW15B	WT	G	12/29/22	12:45				11	X	X	X		X					X	X	X	X	X	X	X	X	X				OW4
5	MW-41I	WT																	X	X	X	X	X	X	X	X	X				
6	MW-41D	WT																	X	X	X	X	X	X	X	X	X				
7	MW-42S	WT																	X	X	X	X	X	X	X	X	X				
8	MW-42I	WT																	X	X	X	X	X	X	X	X	X				
9	MW-42D	WT																	X	X	X	X	X	X	X	X	X				
10	MW-43S	WT																	X	X	X	X	X	X	X	X	X				
11	MW-43I	WT																	X	X	X	X	X	X	X	X	X				
12	MW-43D	WT																	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, Fe, Pb, Mn, Mo, Ca, Mg, Na, K, Li, SiO2)	Mohammed Bazlamit	12/29/22	1430	Fedex						
6020 (Be, Co, As, Se, Sb)	Fedex	12/30/22	0920	JL	12/30/22	0920	1.9	Y	Y	Y
** Dissolved FF 6010 (Mo, Mn)							0.6	Y	Y	Y
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Mohammed Bazlamit				
SIGNATURE of SAMPLER:	DATE Signed: 12/29/22				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 12/30/22 1020 IL

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)

1.9/1.9	0.6/0.6		

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_2/NO_3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 12:15			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
COC Line Item	WGFU	DI R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
2																													✓	✓		✓
3																													✓	✓		✓
4																													✓	✓		✓
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	
NGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	
NGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	
IGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	
IG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	
IG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	

Plastic

BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc plastic		

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Pace Container Order #981135

Addresses

Order By :		Ship To :		Return To:	
Company	Atlas Indianapolis	Company	AES/IPL Petersburg (Pace Analytical	Company	Pace Analytical Indianapolis
Contact	Breting, Mark	Contact	Teague, Wil	Contact	Putt, Hayden
Email	mark.breting@atcgs.com	Email	wil.teague@aes.com	Email	hayden.putt@pacelabs.com
Address	7988 Centerpoint Drive	Address	6925 North Highway 57	Address	7726 Moller Road
Address 2	Suite 100	Address 2		Address 2	
City	Indianapolis	City	Petersburg	City	Indianapolis
State	IN Zip 46256	State	IN Zip 47567	State	IN Zip 46268
Phone	317-313-8306	Phone	(812)601-7115	Phone	(317)228-3145

Info

Project Name	AES PB 2022 On-Site MW Water	**Due Date**	08/10/2022	**Profile**	10498/21	**Quote**	
Project Manager	Putt, Hayden	**Return Date**		**Carrier**	FedEx Ground	**Location**	IN

Trip Blanks

- [ ] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [ ] Individually Wrapped
- [ ] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [X] With Shipper

COC Options

- [ ] Number of Blanks
- [X] Pre-Printed 3

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [X] Short Hold/Rush Stickers
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
25	WT	IN Rad226/Rad228	2- 1L plastic, HNO3	50	0		

Hazard Shipping Placard In Place : NO

*Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

*Payment term are net 30 days.

*Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	08/05/2022
Prepared By:	ICL
Verified By:	
Tracking Num:	

Sample

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Internal

Pace Container Order #981135

Addresses

Order By :		Ship To :		Return To:	
Company	Atlas Indianapolis	Company	AES/IPL Petersburg (Pace Analytical	Company	Pace Analytical Indianapolis
Contact	Breting, Mark	Contact	Teague, Wil	Contact	Putt, Hayden
Email	mark.breting@atcgs.com	Email	wil.teague@aes.com	Email	hayden.putt@pacelabs.com
Address	7988 Centerpoint Drive	Address	6925 North Highway 57	Address	7726 Moller Road
Address 2	Suite 100	Address 2		Address 2	
City	Indianapolis	City	Petersburg	City	Indianapolis
State	IN Zip 46256	State	IN Zip 47567	State	IN Zip 46268
Phone	317-313-8306	Phone	(812)601-7115	Phone	(317)228-3145

Info

Project Name	AES PB 2022 On-Site MW Water	**Due Date**	08/10/2022	**Profile**	10498/21	**Quote**	
Project Manager	Putt, Hayden	**Return Date**		**Carrier**	FedEx Ground	**Location**	IN

Trip Blanks

- [ ] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [ ] Individually Wrapped
- [ ] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [X] With Shipper

COC Options

- [ ] Number of Blanks
- [X] Pre-Printed 3

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [X] Short Hold/Rush Stickers *
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
25	WT	IN Metals, Total	250mL plastic, HNO3	25	0		
25	WT	IN Metals, Field Filtered	250mL plastic, HNO3 +FF labels	25	0		
25	WT	IN TDS 2540C	250mL plastic,unpres	25	0		
25	WT	IN pH/IC (Cl,F,SO4)	250mL plastic, unpres	25	0		
25	WT	IN TOC 5310	250 ml amber glass H2SO4	25	0		
25	WT	IN DOC, Field Filtered 5310C	250mL AMBER GLASS, H2SO4 +FF labels	25	0		
25	WT	IN Alkalinity/Ferrous Fe/Residual Cl/NO3/NO2	500mL plastic, unpres	25	0		
25	WT	IN Sulfide 4500S2D	250mL plastic, NaOH and Zinc Acetate	25	0		
25	WT	IN Phosphorus, Total 365.1	250mL plastic, H2SO4	25	0		

Hazard Shipping Placard In Place : NO

*Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

*Payment term are net 30 days.

*Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	08/05/2022
Prepared By:	ICL
Verified By:	

Sample

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

April 2023

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

May 01, 2023

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

RE: Project: AES Petersburg
Pace Project No.: 50341585

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
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
Pace Project No.: 50341585

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: AES Petersburg
Pace Project No.: 50341585

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50341585001	**MW-12A**	Water	04/07/23 10:07	04/08/23 08:35
50341585002	**MW-1A**	Water	04/07/23 13:52	04/08/23 08:35
50341585003	**DUP**	Water	04/07/23 00:00	04/08/23 08:35

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

SAMPLE ANALYTE COUNT

Project: AES Petersburg
Pace Project No.: 50341585

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50341585001	**MW-12A**	EPA 9056	ADM	4	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50341585002	**MW-1A**	EPA 9056	ADM	4	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	8	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50341585003	**DUP**	EPA 9056	ADM	4	PASI-I
		EPA 6010	JPK	10	PASI-I
		EPA 6010	MTM	4	PASI-I

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

SAMPLE ANALYTE COUNT

Project: AES Petersburg
Pace Project No.: 50341585

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	CAW	8	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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

SUMMARY OF DETECTION

Project: AES Petersburg
Pace Project No.: 50341585

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50341585001	**MW-12A**					
EPA 9056	Chloride	6.7	mg/L	0.25	04/11/23 15:06	
EPA 9056	Sulfate	55.7	mg/L	2.5	04/11/23 15:25	
EPA 6010	Calcium	51200	ug/L	1000	04/14/23 00:21	
EPA 6010	Iron	2480	ug/L	100	04/14/23 00:21	
EPA 6010	Magnesium	18400	ug/L	1000	04/14/23 00:21	
EPA 6010	Manganese	420	ug/L	10.0	04/14/23 00:21	
EPA 6010	Potassium	2010	ug/L	1000	04/14/23 00:21	
EPA 6010	Silica	18000	ug/L	450	04/14/23 00:21	N2
EPA 6010	Sodium	4800	ug/L	1000	04/14/23 00:21	
EPA 6010	Iron, Dissolved	2370	ug/L	100	04/13/23 11:11	
EPA 6010	Magnesium, Dissolved	18100	ug/L	1000	04/13/23 11:11	
EPA 6010	Potassium, Dissolved	1770	ug/L	1000	04/13/23 11:11	
EPA 6020	Barium	67.2	ug/L	1.0	04/13/23 02:06	
EPA 6020	Manganese, Dissolved	423	ug/L	4.0	04/14/23 14:40	
EPA 903.1	Radium-226	0.372 ± 0.566 (0.975) C:NA T:81%	pCi/L		04/25/23 15:52	
EPA 904.0	Radium-228	0.498 ± 0.406 (0.821) C:85% T:83%	pCi/L		04/25/23 12:03	
Total Radium Calculation	Total Radium	0.870 ± 0.972 (1.80)	pCi/L		04/27/23 17:32	
SM 2320B	Alkalinity, Total as CaCO3	137	mg/L	10.0	04/10/23 19:41	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	137	mg/L	10.0	04/10/23 19:41	
SM 2540C	Total Dissolved Solids	231	mg/L	10.0	04/12/23 08:46	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	04/15/23 10:02	H3
HACH 8146	Iron, Ferrous	1.1	mg/L	0.50	04/10/23 14:45	H3,N2
50341585002	**MW-1A**					
EPA 9056	Chloride	83.8	mg/L	2.5	04/11/23 16:20	
EPA 9056	Fluoride	0.12	mg/L	0.10	04/11/23 16:02	
EPA 9056	Sulfate	123	mg/L	2.5	04/11/23 16:20	
EPA 6010	Aluminum	445	ug/L	200	04/14/23 00:23	
EPA 6010	Calcium	136000	ug/L	1000	04/14/23 00:23	
EPA 6010	Iron	2670	ug/L	100	04/14/23 00:23	
EPA 6010	Magnesium	39500	ug/L	1000	04/14/23 00:23	
EPA 6010	Manganese	199	ug/L	10.0	04/14/23 00:23	
EPA 6010	Potassium	2090	ug/L	1000	04/14/23 00:23	
EPA 6010	Silica	31500	ug/L	450	04/14/23 00:23	N2
EPA 6010	Sodium	26900	ug/L	1000	04/14/23 00:23	
EPA 6010	Iron, Dissolved	2210	ug/L	100	04/13/23 11:13	
EPA 6010	Magnesium, Dissolved	37500	ug/L	1000	04/13/23 11:13	
EPA 6010	Potassium, Dissolved	1590	ug/L	1000	04/13/23 11:13	
EPA 6020	Barium	128	ug/L	1.0	04/13/23 02:10	
EPA 6020	Molybdenum	2.4	ug/L	1.0	04/13/23 02:10	
EPA 6020	Boron, Dissolved	70.4	ug/L	20.0	04/12/23 15:08	N2

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: AES Petersburg
Pace Project No.: 50341585

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50341585002	**MW-1A**					
EPA 6020	Manganese, Dissolved	191	ug/L	1.0	04/12/23 15:08	
EPA 6020	Molybdenum, Dissolved	2.1	ug/L	1.0	04/12/23 15:08	
EPA 903.1	Radium-226	0.333 ± 0.394 (0.619) C:NA T:88%	pCi/L		04/25/23 15:52	
EPA 904.0	Radium-228	0.731 ± 0.391 (0.707) C:86% T:83%	pCi/L		04/25/23 12:03	
Total Radium Calculation	Total Radium	1.06 ± 0.785 (1.33)	pCi/L		04/27/23 17:32	
SM 2320B	Alkalinity, Total as CaCO3	290	mg/L	10.0	04/10/23 19:41	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	290	mg/L	10.0	04/10/23 19:41	
SM 2540C	Total Dissolved Solids	619	mg/L	10.0	04/12/23 08:46	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	04/15/23 10:05	H3
HACH 8146	Iron, Ferrous	1.0	mg/L	0.20	04/10/23 14:45	H3,N2
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	04/10/23 19:23	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	04/10/23 16:34	
50341585003	**DUP**					
EPA 9056	Chloride	83.5	mg/L	2.5	04/11/23 17:52	
EPA 9056	Fluoride	0.12	mg/L	0.10	04/11/23 17:34	
EPA 9056	Sulfate	123	mg/L	2.5	04/11/23 17:52	
EPA 6010	Aluminum	421	ug/L	200	04/14/23 00:25	
EPA 6010	Calcium	134000	ug/L	1000	04/14/23 00:25	
EPA 6010	Iron	2640	ug/L	100	04/14/23 00:25	
EPA 6010	Magnesium	38600	ug/L	1000	04/14/23 00:25	
EPA 6010	Manganese	194	ug/L	10.0	04/14/23 00:25	
EPA 6010	Potassium	1930	ug/L	1000	04/14/23 00:25	
EPA 6010	Silica	30800	ug/L	450	04/14/23 00:25	N2
EPA 6010	Sodium	26000	ug/L	1000	04/14/23 00:25	
EPA 6010	Iron, Dissolved	2240	ug/L	100	04/13/23 11:16	
EPA 6010	Magnesium, Dissolved	37900	ug/L	1000	04/13/23 11:16	
EPA 6010	Potassium, Dissolved	1580	ug/L	1000	04/13/23 11:16	
EPA 6020	Barium	128	ug/L	1.0	04/13/23 02:13	
EPA 6020	Molybdenum	2.4	ug/L	1.0	04/13/23 02:13	
EPA 6020	Boron, Dissolved	68.8	ug/L	20.0	04/12/23 15:12	N2
EPA 6020	Manganese, Dissolved	187	ug/L	1.0	04/12/23 15:12	
EPA 6020	Molybdenum, Dissolved	2.1	ug/L	1.0	04/12/23 15:12	
EPA 903.1	Radium-226	0.689 ± 0.619 (0.940) C:NA T:92%	pCi/L		04/25/23 15:52	
EPA 904.0	Radium-228	0.661 ± 0.401 (0.760) C:81% T:90%	pCi/L		04/25/23 12:03	

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(317)228-3100

SUMMARY OF DETECTION

Project: AES Petersburg
Pace Project No.: 50341585

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50341585003	**DUP**					
Total Radium Calculation	Total Radium	1.35 ± 1.02 (1.70)	pCi/L		04/27/23 17:32	
SM 2320B	Alkalinity, Total as CaCO3	279	mg/L	10.0	04/10/23 19:41	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	279	mg/L	10.0	04/10/23 19:41	
SM 2540C	Total Dissolved Solids	620	mg/L	10.0	04/12/23 08:47	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	04/15/23 09:58	H3
HACH 8146	Iron, Ferrous	1.1	mg/L	0.20	04/10/23 14:45	H3,N2
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	04/10/23 19:45	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	04/10/23 16:45	

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-12A **Lab ID: 50341585001** Collected: 04/07/23 10:07 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		04/11/23 15:06	24959-67-9	
Chloride	**6.7**	mg/L	0.25	0.067	1		04/11/23 15:06	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		04/11/23 15:06	16984-48-8	
Sulfate	**55.7**	mg/L	2.5	0.85	10		04/11/23 15:25	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	200	55.4	1	04/13/23 08:35	04/14/23 00:21	7429-90-5	
Boron	ND	ug/L	100	37.6	1	04/13/23 08:35	04/14/23 00:21	7440-42-8	
Calcium	**51200**	ug/L	1000	163	1	04/13/23 08:35	04/14/23 00:21	7440-70-2	
Iron	**2480**	ug/L	100	48.8	1	04/13/23 08:35	04/14/23 00:21	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	04/13/23 08:35	04/14/23 00:21	7439-93-2	
Magnesium	**18400**	ug/L	1000	71.8	1	04/13/23 08:35	04/14/23 00:21	7439-95-4	
Manganese	**420**	ug/L	10.0	2.5	1	04/13/23 08:35	04/14/23 00:21	7439-96-5	
Potassium	**2010**	ug/L	1000	281	1	04/13/23 08:35	04/14/23 00:21	7440-09-7	
Silica	**18000**	ug/L	450		1	04/13/23 08:35	04/14/23 00:21	7631-86-9	N2
Sodium	**4800**	ug/L	1000	214	1	04/13/23 08:35	04/14/23 00:21	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2370**	ug/L	100	48.8	1	04/11/23 08:12	04/13/23 11:11	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	04/11/23 08:12	04/13/23 11:11	7439-93-2	
Magnesium, Dissolved	**18100**	ug/L	1000	71.8	1	04/11/23 08:12	04/13/23 11:11	7439-95-4	
Potassium, Dissolved	**1770**	ug/L	1000	281	1	04/11/23 08:12	04/13/23 11:11	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.036	1	04/11/23 07:30	04/13/23 02:06	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	04/11/23 07:30	04/13/23 02:06	7440-38-2	
Barium	**67.2**	ug/L	1.0	0.051	1	04/11/23 07:30	04/13/23 02:06	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	04/11/23 07:30	04/13/23 02:06	7440-41-7	
Cadmium	ND	ug/L	0.20	0.0090	1	04/11/23 07:30	04/13/23 02:06	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	04/11/23 07:30	04/13/23 02:06	7440-48-4	
Lead	ND	ug/L	1.0	0.034	1	04/11/23 07:30	04/13/23 02:06	7439-92-1	
Molybdenum	ND	ug/L	1.0	0.048	1	04/11/23 07:30	04/13/23 02:06	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	04/11/23 07:30	04/12/23 15:05	7429-90-5	
Boron, Dissolved	ND	ug/L	20.0	1.0	1	04/11/23 07:30	04/12/23 15:05	7440-42-8	N2
Manganese, Dissolved	**423**	ug/L	4.0	0.26	4	04/11/23 07:30	04/14/23 14:40	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	1.0	0.048	1	04/11/23 07:30	04/12/23 15:05	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-12A **Lab ID: 50341585001** Collected: 04/07/23 10:07 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**137**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Bicarbonate (CaCO3)	**137**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		04/10/23 19:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**231**	mg/L	10.0	10.0	1		04/12/23 08:46		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		04/15/23 10:02		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		04/10/23 11:10	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.1**	mg/L	0.50	0.088	2.5		04/10/23 14:45	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	0.011	1		04/08/23 10:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		04/08/23 10:38	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	0.15	1	04/21/23 11:30	04/24/23 12:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		04/10/23 18:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		04/10/23 16:02		

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-1A **Lab ID: 50341585002** Collected: 04/07/23 13:52 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		04/11/23 16:02	24959-67-9	
Chloride	**83.8**	mg/L	2.5	0.67	10		04/11/23 16:20	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		04/11/23 16:02	16984-48-8	
Sulfate	**123**	mg/L	2.5	0.85	10		04/11/23 16:20	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**445**	ug/L	200	55.4	1	04/13/23 08:35	04/14/23 00:23	7429-90-5	
Boron	ND	ug/L	100	37.6	1	04/13/23 08:35	04/14/23 00:23	7440-42-8	
Calcium	**136000**	ug/L	1000	163	1	04/13/23 08:35	04/14/23 00:23	7440-70-2	
Iron	**2670**	ug/L	100	48.8	1	04/13/23 08:35	04/14/23 00:23	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	04/13/23 08:35	04/14/23 00:23	7439-93-2	
Magnesium	**39500**	ug/L	1000	71.8	1	04/13/23 08:35	04/14/23 00:23	7439-95-4	
Manganese	**199**	ug/L	10.0	2.5	1	04/13/23 08:35	04/14/23 00:23	7439-96-5	
Potassium	**2090**	ug/L	1000	281	1	04/13/23 08:35	04/14/23 00:23	7440-09-7	
Silica	**31500**	ug/L	450		1	04/13/23 08:35	04/14/23 00:23	7631-86-9	N2
Sodium	**26900**	ug/L	1000	214	1	04/13/23 08:35	04/14/23 00:23	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2210**	ug/L	100	48.8	1	04/11/23 08:12	04/13/23 11:13	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	04/11/23 08:12	04/13/23 11:13	7439-93-2	
Magnesium, Dissolved	**37500**	ug/L	1000	71.8	1	04/11/23 08:12	04/13/23 11:13	7439-95-4	
Potassium, Dissolved	**1590**	ug/L	1000	281	1	04/11/23 08:12	04/13/23 11:13	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.036	1	04/11/23 07:30	04/13/23 02:10	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	04/11/23 07:30	04/13/23 02:10	7440-38-2	
Barium	**128**	ug/L	1.0	0.051	1	04/11/23 07:30	04/13/23 02:10	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	04/11/23 07:30	04/13/23 02:10	7440-41-7	
Cadmium	ND	ug/L	0.20	0.0090	1	04/11/23 07:30	04/13/23 02:10	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	04/11/23 07:30	04/13/23 02:10	7440-48-4	
Lead	ND	ug/L	1.0	0.034	1	04/11/23 07:30	04/13/23 02:10	7439-92-1	
Molybdenum	**2.4**	ug/L	1.0	0.048	1	04/11/23 07:30	04/13/23 02:10	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	04/11/23 07:30	04/12/23 15:08	7429-90-5	
Boron, Dissolved	**70.4**	ug/L	20.0	1.0	1	04/11/23 07:30	04/12/23 15:08	7440-42-8	N2
Manganese, Dissolved	**191**	ug/L	1.0	0.065	1	04/11/23 07:30	04/12/23 15:08	7439-96-5	
Molybdenum, Dissolved	**2.1**	ug/L	1.0	0.048	1	04/11/23 07:30	04/12/23 15:08	7439-98-7	

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-1A **Lab ID: 50341585002** Collected: 04/07/23 13:52 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**290**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Bicarbonate (CaCO3)	**290**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		04/10/23 19:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**619**	mg/L	10.0	10.0	1		04/12/23 08:46		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		04/15/23 10:05		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		04/10/23 11:10	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.0**	mg/L	0.20	0.035	1		04/10/23 14:45	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	0.011	1		04/08/23 10:44	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		04/08/23 10:44	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	0.15	1	04/21/23 11:30	04/24/23 12:16		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.24	1		04/10/23 19:23	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.3**	mg/L	1.0	0.24	1		04/10/23 16:34		

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: DUP **Lab ID: 50341585003** Collected: 04/07/23 00:00 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		04/11/23 17:34	24959-67-9	
Chloride	**83.5**	mg/L	2.5	0.67	10		04/11/23 17:52	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		04/11/23 17:34	16984-48-8	
Sulfate	**123**	mg/L	2.5	0.85	10		04/11/23 17:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Aluminum	**421**	ug/L	200	55.4	1	04/13/23 08:35	04/14/23 00:25	7429-90-5	
Boron	ND	ug/L	100	37.6	1	04/13/23 08:35	04/14/23 00:25	7440-42-8	
Calcium	**134000**	ug/L	1000	163	1	04/13/23 08:35	04/14/23 00:25	7440-70-2	
Iron	**2640**	ug/L	100	48.8	1	04/13/23 08:35	04/14/23 00:25	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	04/13/23 08:35	04/14/23 00:25	7439-93-2	
Magnesium	**38600**	ug/L	1000	71.8	1	04/13/23 08:35	04/14/23 00:25	7439-95-4	
Manganese	**194**	ug/L	10.0	2.5	1	04/13/23 08:35	04/14/23 00:25	7439-96-5	
Potassium	**1930**	ug/L	1000	281	1	04/13/23 08:35	04/14/23 00:25	7440-09-7	
Silica	**30800**	ug/L	450		1	04/13/23 08:35	04/14/23 00:25	7631-86-9	N2
Sodium	**26000**	ug/L	1000	214	1	04/13/23 08:35	04/14/23 00:25	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2240**	ug/L	100	48.8	1	04/11/23 08:12	04/13/23 11:16	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	04/11/23 08:12	04/13/23 11:16	7439-93-2	
Magnesium, Dissolved	**37900**	ug/L	1000	71.8	1	04/11/23 08:12	04/13/23 11:16	7439-95-4	
Potassium, Dissolved	**1580**	ug/L	1000	281	1	04/11/23 08:12	04/13/23 11:16	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.036	1	04/11/23 07:30	04/13/23 02:13	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	04/11/23 07:30	04/13/23 02:13	7440-38-2	
Barium	**128**	ug/L	1.0	0.051	1	04/11/23 07:30	04/13/23 02:13	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	04/11/23 07:30	04/13/23 02:13	7440-41-7	
Cadmium	ND	ug/L	0.20	0.0090	1	04/11/23 07:30	04/13/23 02:13	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	04/11/23 07:30	04/13/23 02:13	7440-48-4	
Lead	ND	ug/L	1.0	0.034	1	04/11/23 07:30	04/13/23 02:13	7439-92-1	
Molybdenum	**2.4**	ug/L	1.0	0.048	1	04/11/23 07:30	04/13/23 02:13	7439-98-7	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	04/11/23 07:30	04/12/23 15:12	7429-90-5	
Boron, Dissolved	**68.8**	ug/L	20.0	1.0	1	04/11/23 07:30	04/12/23 15:12	7440-42-8	N2
Manganese, Dissolved	**187**	ug/L	1.0	0.065	1	04/11/23 07:30	04/12/23 15:12	7439-96-5	
Molybdenum, Dissolved	**2.1**	ug/L	1.0	0.048	1	04/11/23 07:30	04/12/23 15:12	7439-98-7	

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ANALYTICAL RESULTS

Project: AES Petersburg
Pace Project No.: 50341585

Sample: DUP **Lab ID: 50341585003** Collected: 04/07/23 00:00 Received: 04/08/23 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**279**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Bicarbonate (CaCO3)	**279**	mg/L	10.0	10.0	1		04/10/23 19:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		04/10/23 19:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**620**	mg/L	10.0	10.0	1		04/12/23 08:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		04/15/23 09:58		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		04/10/23 11:10	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.1**	mg/L	0.20	0.035	1		04/10/23 14:45	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	0.011	1		04/08/23 10:37	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		04/08/23 10:37	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	0.15	1	04/21/23 11:30	04/24/23 12:17		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.1**	mg/L	1.0	0.24	1		04/10/23 19:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.24	1		04/10/23 16:45		

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727000
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336148 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	04/11/23 09:54	
Chloride	mg/L	ND	0.25	0.067	04/11/23 09:54	
Fluoride	mg/L	ND	0.10	0.017	04/11/23 09:54	
Sulfate	mg/L	ND	0.25	0.085	04/11/23 09:54	

LABORATORY CONTROL SAMPLE: 3336149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.97	97	80-120	
Chloride	mg/L	2.5	2.3	90	80-120	
Fluoride	mg/L	1	0.94	94	80-120	
Sulfate	mg/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336150 3336151

Parameter	Units	50341283004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.20	1	1	1.2	1.2	98	98	80-120	1	15	
Chloride	mg/L	531	250	250	750	752	88	89	80-120	0	15	
Fluoride	mg/L	0.25	1	1	1.2	1.3	99	101	80-120	2	15	
Sulfate	mg/L	53.6	50	50	100	100	94	93	80-120	0	15	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727408
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3337923 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	200	55.4	04/13/23 23:34	
Boron	ug/L	ND	100	37.6	04/13/23 23:34	
Calcium	ug/L	ND	1000	163	04/13/23 23:34	
Iron	ug/L	ND	100	48.8	04/13/23 23:34	
Lithium	ug/L	ND	20.0	6.2	04/13/23 23:34	
Magnesium	ug/L	ND	1000	71.8	04/13/23 23:34	
Manganese	ug/L	ND	10.0	2.5	04/13/23 23:34	
Potassium	ug/L	ND	1000	281	04/13/23 23:34	
Silica	ug/L	ND	450		04/13/23 23:34	N2
Sodium	ug/L	ND	1000	214	04/13/23 23:34	

LABORATORY CONTROL SAMPLE: 3337924

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9760	98	80-120	
Boron	ug/L	1000	927	93	80-120	
Calcium	ug/L	10000	9790	98	80-120	
Iron	ug/L	10000	9830	98	80-120	
Lithium	ug/L	1000	971	97	80-120	
Magnesium	ug/L	10000	9650	97	80-120	
Manganese	ug/L	1000	926	93	80-120	
Potassium	ug/L	10000	9620	96	80-120	
Silica	ug/L	10700	10100	95	80-120	N2
Sodium	ug/L	10000	9380	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3337925 3337926

Parameter	Units	50341137007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4920	10000	10000	16200	16800	113	119	75-125	4	20	
Boron	ug/L	ND	1000	1000	972	992	94	96	75-125	2	20	
Calcium	ug/L	96900	10000	10000	103000	105000	63	84	75-125	2	20	P6
Iron	ug/L	6870	10000	10000	16200	16700	93	98	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1030	1050	103	105	75-125	2	20	
Magnesium	ug/L	29100	10000	10000	37900	38700	88	96	75-125	2	20	
Manganese	ug/L	184	1000	1000	1080	1100	90	92	75-125	2	20	
Potassium	ug/L	19000	10000	10000	29200	29800	102	108	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3337925 3337926

Parameter	Units	50341137007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silica	ug/L	31700	10700	10700	47100	48800	144	160	75-125	4	20	N2
Sodium	ug/L	34200	10000	10000	43000	43800	88	97	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727132
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336640 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	04/13/23 10:16	
Lithium, Dissolved	ug/L	ND	20.0	6.2	04/13/23 10:16	
Magnesium, Dissolved	ug/L	ND	1000	71.8	04/13/23 10:16	
Potassium, Dissolved	ug/L	ND	1000	281	04/13/23 10:16	

LABORATORY CONTROL SAMPLE: 3336641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9950	100	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	10000	9740	97	80-120	
Potassium, Dissolved	ug/L	10000	9520	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336642 3336643

Parameter	Units	50341034001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	16100	10000	10000	25600	25600	95	96	75-125	0	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	75-125	2	20	
Magnesium, Dissolved	ug/L	12800	10000	10000	22100	22100	93	92	75-125	0	20	
Potassium, Dissolved	ug/L	1430	10000	10000	11500	11300	101	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727064
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336398 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.036	04/13/23 02:00	
Arsenic	ug/L	ND	1.0	0.053	04/13/23 02:00	
Barium	ug/L	ND	1.0	0.051	04/13/23 02:00	
Beryllium	ug/L	ND	0.20	0.028	04/13/23 02:00	
Cadmium	ug/L	ND	0.20	0.0090	04/13/23 02:00	
Cobalt	ug/L	ND	1.0	0.032	04/13/23 02:00	
Lead	ug/L	ND	1.0	0.034	04/13/23 02:00	
Molybdenum	ug/L	ND	1.0	0.048	04/13/23 02:00	

LABORATORY CONTROL SAMPLE: 3336399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.9	102	80-120	
Arsenic	ug/L	40	38.1	95	80-120	
Barium	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	40.1	100	80-120	
Cadmium	ug/L	40	38.5	96	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	39.9	100	80-120	
Molybdenum	ug/L	40	39.6	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336400 3336401

Parameter	Units	50341439002 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	39.2	40.1	98	100	75-125	2	20	
Arsenic	ug/L	ND	40	40	37.6	37.8	92	93	75-125	1	20	
Barium	ug/L	587	40	40	624	626	95	99	75-125	0	20	
Beryllium	ug/L	ND	40	40	39.3	39.1	98	97	75-125	0	20	
Cadmium	ug/L	ND	40	40	37.9	39.2	94	98	75-125	3	20	
Cobalt	ug/L	ND	40	40	38.7	39.2	94	96	75-125	1	20	
Lead	ug/L	ND	40	40	38.2	38.7	95	96	75-125	1	20	
Molybdenum	ug/L	ND	40	40	39.8	40.6	98	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727207
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3337065 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	1.7	04/12/23 14:47	
Boron, Dissolved	ug/L	ND	20.0	1.0	04/12/23 14:47	N2
Manganese, Dissolved	ug/L	ND	1.0	0.065	04/12/23 14:47	
Molybdenum, Dissolved	ug/L	ND	1.0	0.048	04/12/23 14:47	

LABORATORY CONTROL SAMPLE: 3337066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	394	99	80-120	
Boron, Dissolved	ug/L	40	44.1	110	80-120	N2
Manganese, Dissolved	ug/L	40	40.9	102	80-120	
Molybdenum, Dissolved	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3337067 3337068

Parameter	Units	50341609009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	403	403	100	100	75-125	0	20	
Boron, Dissolved	ug/L	465	40	40	508	507	108	104	75-125	0	20	CC,E, N2
Manganese, Dissolved	ug/L	17.5	40	40	56.4	55.6	97	95	75-125	1	20	
Molybdenum, Dissolved	ug/L	1.8	40	40	42.0	41.2	101	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727188
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336840 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	04/10/23 19:41	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	04/10/23 19:41	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	04/10/23 19:41	

LABORATORY CONTROL SAMPLE: 3336841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.1	96	90-110	

SAMPLE DUPLICATE: 3336842

Parameter	Units	50341585001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	137	138	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	137	138	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3336843

Parameter	Units	50341284001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	2170	2220	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	2170	2220	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727462
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3338240 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	04/12/23 08:39	

LABORATORY CONTROL SAMPLE: 3338241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	282	94	80-120	

SAMPLE DUPLICATE: 3338242

Parameter	Units	50341549001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	540	537	1	10	

SAMPLE DUPLICATE: 3338243

Parameter	Units	50341549004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1090	1090	0	10	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 728114
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: 50341585001, 50341585002, 50341585003

SAMPLE DUPLICATE: 3341821

Parameter	Units	50341125002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	2	H3

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727085
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: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336474 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	04/10/23 11:10	

LABORATORY CONTROL SAMPLE: 3336475

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336476 3336477

Parameter	Units	50341585001 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	0.55	0.54	109	109	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727129
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336628 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	04/10/23 14:44	H3,N2

LABORATORY CONTROL SAMPLE: 3336629

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	0.99	99	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336630 3336631

Parameter	Units	50341585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	1.1	5	5	6.3	6.2	104	102	90-110	2	20	H3,N2

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 726994
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: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336139 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	04/08/23 10:33	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	04/08/23 10:33	

LABORATORY CONTROL SAMPLE: 3336140

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	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336141 3336142

Parameter	Units	50341585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.97	0.98	97	98	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	104	104	90-110	0	20	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 729170 | 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: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3346277 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	04/24/23 12:12	

LABORATORY CONTROL SAMPLE: 3346278

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3346279 3346280

Parameter	Units	50341965001 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	0.85			2.2	2.2				0		

MATRIX SPIKE SAMPLE: 3346281

Parameter	Units	50341585001 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: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727108
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336550 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	04/10/23 18:31	

LABORATORY CONTROL SAMPLE: 3336551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3336552 3336553

Parameter	Units	50341585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	10	10	10.6	10.6	100	100	80-120	0	20	

MATRIX SPIKE SAMPLE: 3336554

Parameter	Units	50341585002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.2	10	10.9	97	80-120	

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QUALITY CONTROL DATA

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 727125
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50341585001, 50341585002, 50341585003

METHOD BLANK: 3336620 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	04/10/23 15:38	

LABORATORY CONTROL SAMPLE: 3336621

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: 3336622 3336623

Parameter	Units	50341585001 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	10.8	10.9	101	102	80-120	1	20	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-12A **Lab ID: 50341585001** Collected: 04/07/23 10:07 Received: 04/08/23 08:35 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	**0.372 ± 0.566 (0.975) C:NA T:81%**	pCi/L	04/25/23 15:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.498 ± 0.406 (0.821) C:85% T:83%**	pCi/L	04/25/23 12:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.870 ± 0.972 (1.80)**	pCi/L	04/27/23 17:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg
Pace Project No.: 50341585

Sample: MW-1A **Lab ID: 50341585002** Collected: 04/07/23 13:52 Received: 04/08/23 08:35 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	**0.333 ± 0.394 (0.619) C:NA T:88%**	pCi/L	04/25/23 15:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.731 ± 0.391 (0.707) C:86% T:83%**	pCi/L	04/25/23 12:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.06 ± 0.785 (1.33)**	pCi/L	04/27/23 17:32	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AES Petersburg
Pace Project No.: 50341585

Sample: DUP **Lab ID: 50341585003** Collected: 04/07/23 00:00 Received: 04/08/23 08:35 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	**0.689 ± 0.619 (0.940) C:NA T:92%**	pCi/L	04/25/23 15:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.661 ± 0.401 (0.760) C:81% T:90%**	pCi/L	04/25/23 12:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.35 ± 1.02 (1.70)**	pCi/L	04/27/23 17:32	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 580774
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: 50341585001, 50341585002, 50341585003

METHOD BLANK: 2820824
Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.104 ± 0.271 (0.607) C:77% T:89%	pCi/L	04/25/23 12:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AES Petersburg
Pace Project No.: 50341585

QC Batch: 580768
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: 50341585001, 50341585002, 50341585003

METHOD BLANK: 2820811 Matrix: Water
Associated Lab Samples: 50341585001, 50341585002, 50341585003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0503 ± 0.230 (0.370) C:NA T:97%	pCi/L	04/25/23 15:52	

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QUALIFIERS

Project: AES Petersburg
Pace Project No.: 50341585

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
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
Pace Project No.: 50341585

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50341585001	**MW-12A**	EPA 9056	727000		
50341585002	**MW-1A**	EPA 9056	727000		
50341585003	**DUP**	EPA 9056	727000		
50341585001	**MW-12A**	EPA 3010	727408	EPA 6010	727904
50341585002	**MW-1A**	EPA 3010	727408	EPA 6010	727904
50341585003	**DUP**	EPA 3010	727408	EPA 6010	727904
50341585001	**MW-12A**	EPA 3010	727132	EPA 6010	727724
50341585002	**MW-1A**	EPA 3010	727132	EPA 6010	727724
50341585003	**DUP**	EPA 3010	727132	EPA 6010	727724
50341585001	**MW-12A**	EPA 200.2	727064	EPA 6020	727310
50341585002	**MW-1A**	EPA 200.2	727064	EPA 6020	727310
50341585003	**DUP**	EPA 200.2	727064	EPA 6020	727310
50341585001	**MW-12A**	EPA 200.2	727207	EPA 6020	727305
50341585002	**MW-1A**	EPA 200.2	727207	EPA 6020	727305
50341585003	**DUP**	EPA 200.2	727207	EPA 6020	727305
50341585001	**MW-12A**	EPA 903.1	580768		
50341585002	**MW-1A**	EPA 903.1	580768		
50341585003	**DUP**	EPA 903.1	580768		
50341585001	**MW-12A**	EPA 904.0	580774		
50341585002	**MW-1A**	EPA 904.0	580774		
50341585003	**DUP**	EPA 904.0	580774		
50341585001	**MW-12A**	Total Radium Calculation	584250		
50341585002	**MW-1A**	Total Radium Calculation	584250		
50341585003	**DUP**	Total Radium Calculation	584250		
50341585001	**MW-12A**	SM 2320B	727188		
50341585002	**MW-1A**	SM 2320B	727188		
50341585003	**DUP**	SM 2320B	727188		
50341585001	**MW-12A**	SM 2540C	727462		
50341585002	**MW-1A**	SM 2540C	727462		
50341585003	**DUP**	SM 2540C	727462		
50341585001	**MW-12A**	SM 4500-H+B	728114		
50341585002	**MW-1A**	SM 4500-H+B	728114		
50341585003	**DUP**	SM 4500-H+B	728114		
50341585001	**MW-12A**	SM 4500-S2-D	727085		
50341585002	**MW-1A**	SM 4500-S2-D	727085		
50341585003	**DUP**	SM 4500-S2-D	727085		
50341585001	**MW-12A**	HACH 8146	727129		
50341585002	**MW-1A**	HACH 8146	727129		
50341585003	**DUP**	HACH 8146	727129		
50341585001	**MW-12A**	EPA 353.2	726994		
50341585002	**MW-1A**	EPA 353.2	726994		
50341585003	**DUP**	EPA 353.2	726994		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AES Petersburg
Pace Project No.: 50341585

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50341585001	**MW-12A**	EPA 365.1	729170	EPA 365.1	729549
50341585002	**MW-1A**	EPA 365.1	729170	EPA 365.1	729549
50341585003	**DUP**	EPA 365.1	729170	EPA 365.1	729549
50341585001	**MW-12A**	SM 5310C	727108		
50341585002	**MW-1A**	SM 5310C	727108		
50341585003	**DUP**	SM 5310C	727108		
50341585001	**MW-12A**	SM 5310C	727125		
50341585002	**MW-1A**	SM 5310C	727125		
50341585003	**DUP**	SM 5310C	727125		

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WO# : 50341585

50341585

lytical Request Document

ll relevant fields must be completed accurately.

Page: 1 of 1

Section A
Required Client Information:

Company:	ATLAS
Address:	7988 Centerpoint DR Suite 100 Indpls IN
Email To:	mark.breting@onecatlas.com
Phone:	317 313 8306
Fax:	
Requested Due Date/TAT:	std

Section B
Required Project Information:

Report To:	MARK BRETING
Copy To:	
Purchase Order No.:	
Project Name:	AES Petersburg
Project Number:	

Invoice Information:

Attention:	Paula Sedam
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	10498/39

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: IN

Section D
Required Client Information

Valid Matrix Codes

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

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Metals Total 6010/6020	Metals FF 6010/6020	TDS 2540C/pH	NO_3, NO_2 - 353.2	9056 IC (Cl, F, SO_4, Br)	TOC 5310	DOC FF 5310	Alk/pH/Ferrous Fe	Sulfide 4500S2D	Phosphate 365.1	Rad 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-12A					4/7/23	1007		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		001
2	MW-1A					↓	1352		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		002
3	DUP					↓	0060		11	3	3	4		1					X	X	X	X	X	X	X	X	X	X	X		003
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Mark Breting / Atlas	4/8/23	835	Daniel Heartner / Pace	4/8/23	0835

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.5	Y	N	Y
1.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MARK BRETING

SIGNATURE of SAMPLER: Mark Breting

DATE Signed (MM/DD/YY): 4/8/23

...rtant N... signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DMP 04/08/23 0840

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)

2.7/2.5°C	1.4/1.2°C		

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

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_3 353.2	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 0910	
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)		N/A

	Yes	No	N/A
All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
	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

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																											Red	Yellow	Green	Black
		DI																														
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit	Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1				WT	✓	✓		✓
2												↓	↓			↓	↓	↓	↓	↓	↓		↓				↓	↓	↓		↓
3												↓	↓			↓	↓	↓	↓	↓	↓		↓				↓	↓	↓		
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

May-June 2023

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

August 16, 2023

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

RE: Project: Petersburg P2R2
Pace Project No.: 50343709

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
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 P2R2
Pace Project No.: 50343709

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P2R2
Pace Project No.: 50343709

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50343709001	**MW-1**	Water	05/02/23 11:25	05/03/23 09:30
50343709002	**MW-10**	Water	05/02/23 13:32	05/03/23 09:30
50343709003	**MW-11**	Water	05/02/23 15:05	05/03/23 09:30
50343709004	**MW-12**	Water	05/02/23 16:30	05/03/23 09:30
50343709005	**MW-13**	Water	05/02/23 17:40	05/03/23 09:30

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Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P2R2
Pace Project No.: 50343709

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50343709001	**MW-1**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
50343709002	**MW-10**	EPA 9056	ADM, RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
50343709003	**MW-11**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
50343709004	**MW-12**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
50343709005	**MW-13**	EPA 9056	ADM	3	PASI-I

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Petersburg P2R2
Pace Project No.: 50343709

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	ELK	3	PASI-I
		EPA 6020	DMT	11	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	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: Petersburg P2R2
Pace Project No.: 50343709

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50343709001	**MW-1**					
EPA 9056	Chloride	3.9	mg/L	0.25	05/05/23 08:27	
EPA 9056	Fluoride	0.12	mg/L	0.10	05/05/23 08:27	
EPA 9056	Sulfate	190	mg/L	2.5	05/05/23 08:43	
EPA 6010	Calcium	142000	ug/L	1000	05/08/23 13:40	
EPA 6020	Barium	50.5	ug/L	1.0	05/05/23 12:51	
EPA 6020	Boron	156	ug/L	25.0	05/05/23 07:11	N2
EPA 903.1	Radium-226	0.227 ± 0.446 (0.816) C:NA T:72%	pCi/L		05/26/23 14:45	
EPA 904.0	Radium-228	0.127 ± 0.360 (0.809) C:80% T:72%	pCi/L		05/17/23 12:08	
Total Radium Calculation	Total Radium	0.354 ± 0.806 (1.63)	pCi/L		05/30/23 15:03	
SM 2540C	Total Dissolved Solids	606	mg/L	10.0	05/03/23 17:32	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/09/23 14:57	H3
50343709002	**MW-10**					
EPA 9056	Chloride	117	mg/L	2.5	05/05/23 09:47	
EPA 9056	Fluoride	0.23	mg/L	0.10	05/05/23 09:31	
EPA 9056	Sulfate	1400	mg/L	25.0	05/09/23 17:52	
EPA 6010	Calcium	620000	ug/L	5000	05/08/23 16:58	
EPA 6010	Lithium	34.5	ug/L	20.0	05/08/23 13:51	
EPA 6020	Arsenic	67.7	ug/L	1.0	05/05/23 12:55	
EPA 6020	Barium	67.4	ug/L	1.0	05/05/23 12:55	
EPA 6020	Boron	34300	ug/L	2500	05/05/23 07:14	N2
EPA 6020	Cobalt	2.1	ug/L	1.0	05/05/23 12:55	
EPA 6020	Molybdenum	15.7	ug/L	10.0	05/05/23 12:55	
EPA 903.1	Radium-226	1.01 ± 0.556 (0.495) C:NA T:85%	pCi/L		05/26/23 14:45	
EPA 904.0	Radium-228	0.770 ± 0.407 (0.717) C:74% T:85%	pCi/L		05/17/23 12:08	
Total Radium Calculation	Total Radium	1.78 ± 0.963 (1.21)	pCi/L		05/30/23 15:03	
SM 2540C	Total Dissolved Solids	2720	mg/L	40.0	05/03/23 17:32	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/09/23 14:59	H3
50343709003	**MW-11**					
EPA 9056	Chloride	1.8	mg/L	0.25	05/05/23 11:27	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/05/23 11:27	
EPA 9056	Sulfate	356	mg/L	25.0	05/05/23 11:44	
EPA 6010	Calcium	160000	ug/L	1000	05/08/23 13:53	

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 P2R2
Pace Project No.: 50343709

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50343709003	**MW-11**					
EPA 6020	Barium	34.5	ug/L	1.0	05/05/23 13:02	
EPA 6020	Boron	1050	ug/L	125	05/05/23 07:18	N2
EPA 6020	Selenium	4.6	ug/L	1.0	05/05/23 13:02	
EPA 903.1	Radium-226	0.198 ± 0.467 (0.865) C:NA T:72%	pCi/L		05/26/23 14:45	
EPA 904.0	Radium-228	0.357 ± 0.411 (0.862) C:72% T:72%	pCi/L		05/17/23 12:08	
Total Radium Calculation	Total Radium	0.555 ± 0.878 (1.73)	pCi/L		05/30/23 15:03	
SM 2540C	Total Dissolved Solids	696	mg/L	10.0	05/03/23 17:33	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/09/23 15:03	H3
50343709004	**MW-12**					
EPA 9056	Chloride	7.8	mg/L	0.25	05/05/23 12:02	
EPA 9056	Fluoride	0.16	mg/L	0.10	05/05/23 12:02	
EPA 9056	Sulfate	13.0	mg/L	0.25	05/05/23 12:02	
EPA 6010	Calcium	53200	ug/L	1000	05/08/23 14:00	
EPA 6020	Arsenic	1.9	ug/L	1.0	05/05/23 07:21	
EPA 6020	Barium	34.9	ug/L	1.0	05/05/23 07:21	
EPA 6020	Boron	16.6	ug/L	5.0	05/05/23 07:21	N2
EPA 6020	Cobalt	1.2	ug/L	1.0	05/05/23 07:21	
EPA 903.1	Radium-226	0.334 ± 0.347 (0.517) C:NA T:87%	pCi/L		05/26/23 14:45	
EPA 904.0	Radium-228	0.307 ± 0.321 (0.666) C:82% T:87%	pCi/L		05/17/23 12:08	
Total Radium Calculation	Total Radium	0.641 ± 0.668 (1.18)	pCi/L		05/30/23 15:03	
SM 2540C	Total Dissolved Solids	216	mg/L	10.0	05/03/23 17:34	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/09/23 15:05	H3
50343709005	**MW-13**					
EPA 9056	Chloride	3.7	mg/L	0.25	05/05/23 12:19	
EPA 9056	Fluoride	0.66	mg/L	0.10	05/05/23 12:19	
EPA 9056	Sulfate	753	mg/L	25.0	05/05/23 12:37	
EPA 6010	Calcium	394000	ug/L	2000	05/08/23 17:00	
EPA 6010	Lithium	62.3	ug/L	20.0	05/08/23 14:02	
EPA 6020	Barium	18.5	ug/L	1.0	05/05/23 13:06	
EPA 6020	Boron	1230	ug/L	125	05/05/23 07:25	N2
EPA 6020	Molybdenum	39.8	ug/L	10.0	05/05/23 13:06	
EPA 6020	Selenium	5.8	ug/L	1.0	05/05/23 13:06	

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 P2R2
Pace Project No.: 50343709

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50343709005	**MW-13**					
EPA 903.1	Radium-226	0.144 ± 0.448 (0.868) C:NA T:70%	pCi/L		05/26/23 14:45	
EPA 904.0	Radium-228	0.113 ± 0.352 (0.796) C:79% T:70%	pCi/L		05/17/23 12:08	
Total Radium Calculation	Total Radium	0.257 ± 0.800 (1.66)	pCi/L		05/30/23 15:03	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	05/03/23 17:34	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	05/09/23 15:06	H3

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

ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-1 **Lab ID: 50343709001** Collected: 05/02/23 11:25 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Chloride	**3.9**	mg/L	0.25	0.067	1		05/05/23 08:27	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.017	1		05/05/23 08:27	16984-48-8	
Sulfate	**190**	mg/L	2.5	0.85	10		05/05/23 08:43	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**142000**	ug/L	1000	163	1	05/05/23 09:11	05/08/23 13:40	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/05/23 09:11	05/08/23 13:40	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/05/23 09:11	05/08/23 13:40	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	05/04/23 15:15	05/05/23 12:51	7440-36-0	
Arsenic	ND	ug/L	1.0	0.12	1	05/04/23 15:15	05/05/23 12:51	7440-38-2	
Barium	**50.5**	ug/L	1.0	0.065	1	05/04/23 15:15	05/05/23 12:51	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/04/23 15:15	05/05/23 12:51	7440-41-7	
Boron	**156**	ug/L	25.0	14.8	5	05/04/23 15:15	05/05/23 07:11	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.016	1	05/04/23 15:15	05/05/23 12:51	7440-43-9	
Cobalt	ND	ug/L	1.0	0.071	1	05/04/23 15:15	05/05/23 12:51	7440-48-4	
Lead	ND	ug/L	10.0	0.068	1	05/04/23 15:15	05/05/23 12:51	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 12:51	7439-98-7	
Selenium	ND	ug/L	1.0	0.19	1	05/04/23 15:15	05/05/23 12:51	7782-49-2	
Thallium	ND	ug/L	1.0	0.060	1	05/04/23 15:15	05/05/23 12:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/04/23 19:21	05/05/23 09:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**606**	mg/L	10.0	10.0	1		05/03/23 17:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		05/09/23 14:57		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-10 **Lab ID: 50343709002** Collected: 05/02/23 13:32 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**117**	mg/L	2.5	0.67	10		05/05/23 09:47	16887-00-6	
Fluoride	**0.23**	mg/L	0.10	0.017	1		05/05/23 09:31	16984-48-8	
Sulfate	**1400**	mg/L	25.0	8.5	100		05/09/23 17:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**620000**	ug/L	5000	815	5	05/05/23 09:11	05/08/23 16:58	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/05/23 09:11	05/08/23 13:51	7440-47-3	
Lithium	**34.5**	ug/L	20.0	6.2	1	05/05/23 09:11	05/08/23 13:51	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	05/04/23 15:15	05/05/23 12:55	7440-36-0	
Arsenic	**67.7**	ug/L	1.0	0.12	1	05/04/23 15:15	05/05/23 12:55	7440-38-2	
Barium	**67.4**	ug/L	1.0	0.065	1	05/04/23 15:15	05/05/23 12:55	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/04/23 15:15	05/05/23 12:55	7440-41-7	
Boron	**34300**	ug/L	2500	1480	500	05/04/23 15:15	05/05/23 07:14	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.016	1	05/04/23 15:15	05/05/23 12:55	7440-43-9	
Cobalt	**2.1**	ug/L	1.0	0.071	1	05/04/23 15:15	05/05/23 12:55	7440-48-4	
Lead	ND	ug/L	10.0	0.068	1	05/04/23 15:15	05/05/23 12:55	7439-92-1	
Molybdenum	**15.7**	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 12:55	7439-98-7	
Selenium	ND	ug/L	1.0	0.19	1	05/04/23 15:15	05/05/23 12:55	7782-49-2	
Thallium	ND	ug/L	1.0	0.060	1	05/04/23 15:15	05/05/23 12:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/04/23 19:21	05/05/23 09:18	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2720**	mg/L	40.0	40.0	1		05/03/23 17:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/09/23 14:59		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-11 **Lab ID: 50343709003** Collected: 05/02/23 15:05 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**1.8**	mg/L	0.25	0.067	1		05/05/23 11:27	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.017	1		05/05/23 11:27	16984-48-8	
Sulfate	**356**	mg/L	25.0	8.5	100		05/05/23 11:44	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**160000**	ug/L	1000	163	1	05/05/23 09:11	05/08/23 13:53	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/05/23 09:11	05/08/23 13:53	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/05/23 09:11	05/08/23 13:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	05/04/23 15:15	05/05/23 13:02	7440-36-0	
Arsenic	ND	ug/L	1.0	0.12	1	05/04/23 15:15	05/05/23 13:02	7440-38-2	
Barium	**34.5**	ug/L	1.0	0.065	1	05/04/23 15:15	05/05/23 13:02	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/04/23 15:15	05/05/23 13:02	7440-41-7	
Boron	**1050**	ug/L	125	73.8	25	05/04/23 15:15	05/05/23 07:18	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.016	1	05/04/23 15:15	05/05/23 13:02	7440-43-9	
Cobalt	ND	ug/L	1.0	0.071	1	05/04/23 15:15	05/05/23 13:02	7440-48-4	
Lead	ND	ug/L	10.0	0.068	1	05/04/23 15:15	05/05/23 13:02	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 13:02	7439-98-7	
Selenium	**4.6**	ug/L	1.0	0.19	1	05/04/23 15:15	05/05/23 13:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.060	1	05/04/23 15:15	05/05/23 13:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/04/23 19:21	05/05/23 09:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**696**	mg/L	10.0	10.0	1		05/03/23 17:33		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		05/09/23 15:03		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-12 **Lab ID: 50343709004** Collected: 05/02/23 16:30 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**7.8**	mg/L	0.25	0.067	1		05/05/23 12:02	16887-00-6	
Fluoride	**0.16**	mg/L	0.10	0.017	1		05/05/23 12:02	16984-48-8	
Sulfate	**13.0**	mg/L	0.25	0.085	1		05/05/23 12:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**53200**	ug/L	1000	163	1	05/05/23 09:11	05/08/23 14:00	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/05/23 09:11	05/08/23 14:00	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/05/23 09:11	05/08/23 14:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.080	1	05/04/23 15:15	05/05/23 07:21	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	0.12	1	05/04/23 15:15	05/05/23 07:21	7440-38-2	
Barium	**34.9**	ug/L	1.0	0.065	1	05/04/23 15:15	05/05/23 07:21	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/04/23 15:15	05/05/23 07:21	7440-41-7	
Boron	**16.6**	ug/L	5.0	3.0	1	05/04/23 15:15	05/05/23 07:21	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.016	1	05/04/23 15:15	05/05/23 07:21	7440-43-9	
Cobalt	**1.2**	ug/L	1.0	0.071	1	05/04/23 15:15	05/05/23 07:21	7440-48-4	
Lead	ND	ug/L	10.0	0.068	1	05/04/23 15:15	05/05/23 07:21	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 07:21	7439-98-7	
Selenium	ND	ug/L	1.0	0.19	1	05/04/23 15:15	05/05/23 07:21	7782-49-2	
Thallium	ND	ug/L	1.0	0.060	1	05/04/23 15:15	05/05/23 07:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/04/23 19:21	05/05/23 09:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**216**	mg/L	10.0	10.0	1		05/03/23 17:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		05/09/23 15:05		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-13 **Lab ID: 50343709005** Collected: 05/02/23 17:40 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**3.7**	mg/L	0.25	0.067	1		05/05/23 12:19	16887-00-6	
Fluoride	**0.66**	mg/L	0.10	0.017	1		05/05/23 12:19	16984-48-8	
Sulfate	**753**	mg/L	25.0	8.5	100		05/05/23 12:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**394000**	ug/L	2000	326	2	05/05/23 09:11	05/08/23 17:00	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/05/23 09:11	05/08/23 14:02	7440-47-3	
Lithium	**62.3**	ug/L	20.0	6.2	1	05/05/23 09:11	05/08/23 14:02	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	0.080	1	05/04/23 15:15	05/05/23 13:06	7440-36-0	
Arsenic	ND	ug/L	1.0	0.12	1	05/04/23 15:15	05/05/23 13:06	7440-38-2	
Barium	**18.5**	ug/L	1.0	0.065	1	05/04/23 15:15	05/05/23 13:06	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/04/23 15:15	05/05/23 13:06	7440-41-7	
Boron	**1230**	ug/L	125	73.8	25	05/04/23 15:15	05/05/23 07:25	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.016	1	05/04/23 15:15	05/05/23 13:06	7440-43-9	
Cobalt	ND	ug/L	1.0	0.071	1	05/04/23 15:15	05/05/23 13:06	7440-48-4	
Lead	ND	ug/L	10.0	0.068	1	05/04/23 15:15	05/05/23 13:06	7439-92-1	
Molybdenum	**39.8**	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 13:06	7439-98-7	
Selenium	**5.8**	ug/L	1.0	0.19	1	05/04/23 15:15	05/05/23 13:06	7782-49-2	
Thallium	ND	ug/L	1.0	0.060	1	05/04/23 15:15	05/05/23 13:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/04/23 19:21	05/05/23 09:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1450**	mg/L	20.0	20.0	1		05/03/23 17:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		05/09/23 15:06		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 731453
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 3356592 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	05/04/23 20:36	
Fluoride	mg/L	ND	0.10	0.017	05/04/23 20:36	
Sulfate	mg/L	ND	0.25	0.085	05/04/23 20:36	

LABORATORY CONTROL SAMPLE: 3356593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.5	2.4	94	80-120	
Fluoride	mg/L	1	1.0	104	80-120	
Sulfate	mg/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356594 3356595

Parameter	Units	50343595002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	32.7	25	25	55.6	55.5	91	91	80-120	0	15	
Fluoride	mg/L	ND	1	1	1.1	1.1	107	107	80-120	0	15	
Sulfate	mg/L	24.4	5	5	29.1	29.1	94	93	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 731488
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 3356740 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	05/05/23 09:10	

LABORATORY CONTROL SAMPLE: 3356741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356742 3356743

Parameter	Units	50343709005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.2	5.1	102	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 731684
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 3357849 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	163	05/08/23 13:17	
Chromium	ug/L	ND	10.0	0.97	05/08/23 13:17	
Lithium	ug/L	ND	20.0	6.2	05/08/23 13:17	

LABORATORY CONTROL SAMPLE: 3357850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	1000	100	80-120	
Lithium	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357851 3357852

Parameter	Units	50343709001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	142000	10000	10000	149000	154000	76	128	75-125	3	20	P6
Chromium	ug/L	ND	1000	1000	970	1010	97	100	75-125	4	20	
Lithium	ug/L	ND	1000	1000	993	1040	99	103	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 731539
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 3357021 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.080	05/05/23 06:14	
Arsenic	ug/L	ND	1.0	0.12	05/05/23 06:14	
Barium	ug/L	ND	1.0	0.065	05/05/23 06:14	
Beryllium	ug/L	ND	0.20	0.026	05/05/23 06:14	
Boron	ug/L	ND	5.0	3.0	05/05/23 06:14	N2
Cadmium	ug/L	ND	2.0	0.016	05/05/23 06:14	
Cobalt	ug/L	ND	1.0	0.071	05/05/23 06:14	
Lead	ug/L	ND	10.0	0.068	05/05/23 06:14	
Molybdenum	ug/L	ND	10.0	0.074	05/05/23 06:14	
Selenium	ug/L	ND	1.0	0.19	05/05/23 06:14	
Thallium	ug/L	ND	1.0	0.060	05/05/23 06:14	

LABORATORY CONTROL SAMPLE: 3357022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	106	80-120	
Arsenic	ug/L	40	38.8	97	80-120	
Barium	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	38.1	95	80-120	
Boron	ug/L	40	42.1	105	80-120	N2
Cadmium	ug/L	40	39.2	98	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	41.1	103	80-120	
Molybdenum	ug/L	40	40.2	100	80-120	
Selenium	ug/L	40	39.8	99	80-120	
Thallium	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357023 3357024

Parameter	Units	50343711001 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	42.8	108	107	75-125	1	20	
Arsenic	ug/L	ND	40	40	39.1	38.8	97	96	75-125	1	20	
Barium	ug/L	48.2	40	40	86.7	87.9	96	99	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.3	38.2	96	95	75-125	0	20	
Boron	ug/L	145	40	40	189	190	108	111	75-125	1	20	IC,N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357023 3357024

Parameter	Units	50343711001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	38.9	38.5	97	96	75-125	1	20	
Lead	ug/L	ND	40	40	39.8	40.1	100	100	75-125	1	20	
Molybdenum	ug/L	ND	40	40	40.6	40.1	101	100	75-125	1	20	
Selenium	ug/L	ND	40	40	39.7	39.1	98	97	75-125	1	20	
Thallium	ug/L	ND	40	40	40.8	41.3	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 731431
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 3356515 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/03/23 17:29	

LABORATORY CONTROL SAMPLE: 3356516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 3356517

Parameter	Units	50343711002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2720	2770	2	10	

SAMPLE DUPLICATE: 3356518

Parameter	Units	50343734002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2740	2740	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 732452
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: 50343709001, 50343709002

SAMPLE DUPLICATE: 3361532

Parameter	Units	50343172002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 732454
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: 50343709003, 50343709004, 50343709005

SAMPLE DUPLICATE: 3361537

Parameter	Units	50343709003 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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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-1 **Lab ID: 50343709001** Collected: 05/02/23 11:25 Received: 05/03/23 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.227 ± 0.446 (0.816) C:NA T:72%**	pCi/L	05/26/23 14:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.127 ± 0.360 (0.809) C:80% T:72%**	pCi/L	05/17/23 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.354 ± 0.806 (1.63)**	pCi/L	05/30/23 15:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-10 **Lab ID: 50343709002** Collected: 05/02/23 13:32 Received: 05/03/23 09:30 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	**1.01 ± 0.556 (0.495) C:NA T:85%**	pCi/L	05/26/23 14:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.770 ± 0.407 (0.717) C:74% T:85%**	pCi/L	05/17/23 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.78 ± 0.963 (1.21)**	pCi/L	05/30/23 15:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-11 **Lab ID: 50343709003** Collected: 05/02/23 15:05 Received: 05/03/23 09:30 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	**0.198 ± 0.467 (0.865) C:NA T:72%**	pCi/L	05/26/23 14:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.357 ± 0.411 (0.862) C:72% T:72%**	pCi/L	05/17/23 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.555 ± 0.878 (1.73)**	pCi/L	05/30/23 15:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-12 **Lab ID: 50343709004** Collected: 05/02/23 16:30 Received: 05/03/23 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.334 ± 0.347 (0.517) C:NA T:87%**	pCi/L	05/26/23 14:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.307 ± 0.321 (0.666) C:82% T:87%**	pCi/L	05/17/23 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.641 ± 0.668 (1.18)**	pCi/L	05/30/23 15:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

Sample: MW-13 **Lab ID: 50343709005** Collected: 05/02/23 17:40 Received: 05/03/23 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.144 ± 0.448 (0.868) C:NA T:70%**	pCi/L	05/26/23 14:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.113 ± 0.352 (0.796) C:79% T:70%**	pCi/L	05/17/23 12:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.257 ± 0.800 (1.66)**	pCi/L	05/30/23 15:03	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 586273
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: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 2848018 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.621 ± 0.493 (0.640) C:NA T:79%	pCi/L	05/26/23 14:45	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R2
Pace Project No.: 50343709

QC Batch: 586274
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: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

METHOD BLANK: 2848020 Matrix: Water
Associated Lab Samples: 50343709001, 50343709002, 50343709003, 50343709004, 50343709005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.287 ± 0.330 (0.690) C:81% T:79%	pCi/L	05/17/23 12:09	

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QUALIFIERS

Project: Petersburg P2R2
Pace Project No.: 50343709

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.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R2
Pace Project No.: 50343709

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50343709001	**MW-1**	EPA 9056	731453		
50343709002	**MW-10**	EPA 9056	731453		
50343709003	**MW-11**	EPA 9056	731453		
50343709004	**MW-12**	EPA 9056	731453		
50343709005	**MW-13**	EPA 9056	731453		
50343709001	**MW-1**	EPA 3010	731684	EPA 6010	732193
50343709002	**MW-10**	EPA 3010	731684	EPA 6010	732193
50343709003	**MW-11**	EPA 3010	731684	EPA 6010	732193
50343709004	**MW-12**	EPA 3010	731684	EPA 6010	732193
50343709005	**MW-13**	EPA 3010	731684	EPA 6010	732193
50343709001	**MW-1**	EPA 200.2	731539	EPA 6020	731784
50343709002	**MW-10**	EPA 200.2	731539	EPA 6020	731784
50343709003	**MW-11**	EPA 200.2	731539	EPA 6020	731784
50343709004	**MW-12**	EPA 200.2	731539	EPA 6020	731784
50343709005	**MW-13**	EPA 200.2	731539	EPA 6020	731784
50343709001	**MW-1**	EPA 7470	731488	EPA 7470	731821
50343709002	**MW-10**	EPA 7470	731488	EPA 7470	731821
50343709003	**MW-11**	EPA 7470	731488	EPA 7470	731821
50343709004	**MW-12**	EPA 7470	731488	EPA 7470	731821
50343709005	**MW-13**	EPA 7470	731488	EPA 7470	731821
50343709001	**MW-1**	EPA 903.1	586273		
50343709002	**MW-10**	EPA 903.1	586273		
50343709003	**MW-11**	EPA 903.1	586273		
50343709004	**MW-12**	EPA 903.1	586273		
50343709005	**MW-13**	EPA 903.1	586273		
50343709001	**MW-1**	EPA 904.0	586274		
50343709002	**MW-10**	EPA 904.0	586274		
50343709003	**MW-11**	EPA 904.0	586274		
50343709004	**MW-12**	EPA 904.0	586274		
50343709005	**MW-13**	EPA 904.0	586274		
50343709001	**MW-1**	Total Radium Calculation	591432		
50343709002	**MW-10**	Total Radium Calculation	591432		
50343709003	**MW-11**	Total Radium Calculation	591432		
50343709004	**MW-12**	Total Radium Calculation	591432		
50343709005	**MW-13**	Total Radium Calculation	591432		
50343709001	**MW-1**	SM 2540C	731431		
50343709002	**MW-10**	SM 2540C	731431		
50343709003	**MW-11**	SM 2540C	731431		
50343709004	**MW-12**	SM 2540C	731431		
50343709005	**MW-13**	SM 2540C	731431		
50343709001	**MW-1**	SM 4500-H+B	732452		
50343709002	**MW-10**	SM 4500-H+B	732452		
50343709003	**MW-11**	SM 4500-H+B	732454		
50343709004	**MW-12**	SM 4500-H+B	732454		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R2
Pace Project No.: 50343709

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50343709005	**MW-13**	SM 4500-H+B	732454		

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CHAIN-OF-CUSTODY / Analytical Request Do

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mus

WO# : 50343709

50343709

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 Indianapolis, IN 46256	Copy To:		Company Name:	Atlas Indianapolis
				Address:	
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:	
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg P2R2	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/43

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	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-1			5-2-23	1025	5/2/23	1175		5	X		X												001
2	MW-10			5/2/23	1332	5/2/23			5	X		X												002
3	MW-11			5/2/23	1505				5	X		X												003
4	MW-12			5/2/23	1630				5	X		X												004
5	MW-13			5/2/23	1740				5	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:Cr, Ca, Li	Chris Burba	5-3-23	700	Jay Williams fedEx	5-3-23	700				
6020: Be, B, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb	Jay Williams fedEx	5-3-23	930	fedEx	↑	↑				
7470 Hg				Walto	5-3-23	930	2.6	Y	N	Y
							2.0			

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 WALTO					
SIGNATURE of SAMPLER:	Nick Walton	DATE Signed: 5-2-23				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

5/3 1015

Date/Time and Initials of person examining contents: WS

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

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

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

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

4. **Cooler Temperature(s):** 2.5/2.6 | 1.9/2.0 | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** ~~HNO3 (<2)~~ H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)			
Short Hold Time Analysis (48 hours or less)? Analysis:		✓	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 ____ of ____

Sample Container Count

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

			VIALS						AMBER GLASS							PLASTIC									OTHER								
		MeOH (only)																												Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
		DI																															
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																2		2	1										✓			
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P3R2
Pace Project No.: 50343711

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Petersburg P3R2
Pace Project No.: 50343711

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50343711001	**MW-1**	Water	05/02/23 10:25	05/03/23 09:30
50343711002	**MW-10**	Water	05/02/23 13:32	05/03/23 09:30
50343711003	**MW-11**	Water	05/02/23 15:05	05/03/23 09:30
50343711004	**MW-12**	Water	05/02/23 16:30	05/03/23 09:30
50343711005	**MW-13**	Water	05/02/23 17:40	05/03/23 09:30

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50343711001	**MW-1**	EPA 9056	ADM	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50343711002	**MW-10**	EPA 9056	ADM	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50343711003	**MW-11**	EPA 9056	ADM	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50343711004	**MW-12**	EPA 9056	ADM	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50343711005	**MW-13**	EPA 9056	ADM	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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

SUMMARY OF DETECTION

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50343711001	**MW-1**					
EPA 6010	Magnesium	42500	ug/L	1000	05/08/23 14:05	
EPA 6010	Potassium	1500	ug/L	1000	05/08/23 14:05	
EPA 6010	Silica	22700	ug/L	450	05/08/23 14:05	N2
EPA 6010	Sodium	3580	ug/L	1000	05/08/23 14:05	
EPA 6010	Magnesium, Dissolved	45500	ug/L	1000	05/06/23 02:43	
EPA 6010	Potassium, Dissolved	1590	ug/L	1000	05/06/23 02:43	
EPA 6020	Aluminum	15.2	ug/L	10.0	05/05/23 12:02	
EPA 6020	Manganese	1.5	ug/L	1.0	05/05/23 12:02	
EPA 6020	Boron, Dissolved	155	ug/L	100	05/05/23 05:00	N2
EPA 6020	Manganese, Dissolved	4.5	ug/L	1.0	05/05/23 09:24	CR
SM 2320B	Alkalinity, Total as CaCO3	321	mg/L	10.0	05/04/23 00:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	321	mg/L	10.0	05/04/23 00:11	
SM 2540C	Total Dissolved Solids	621	mg/L	10.0	05/03/23 17:35	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	05/09/23 15:07	H3
EPA 353.2	Nitrogen, Nitrate	4.4	mg/L	0.10	05/03/23 15:13	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	05/06/23 20:28	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	05/05/23 20:29	
50343711002	**MW-10**					
EPA 9056	Bromide	1.5	mg/L	0.050	05/06/23 03:45	
EPA 6010	Iron	31200	ug/L	100	05/08/23 14:07	
EPA 6010	Magnesium	88700	ug/L	1000	05/08/23 14:07	
EPA 6010	Potassium	35700	ug/L	1000	05/08/23 14:07	
EPA 6010	Silica	32300	ug/L	450	05/08/23 14:07	N2
EPA 6010	Sodium	75600	ug/L	1000	05/08/23 14:07	
EPA 6010	Iron, Dissolved	29900	ug/L	100	05/06/23 02:45	
EPA 6010	Lithium, Dissolved	33.3	ug/L	20.0	05/06/23 02:45	
EPA 6010	Magnesium, Dissolved	94500	ug/L	1000	05/06/23 02:45	
EPA 6010	Potassium, Dissolved	37000	ug/L	1000	05/06/23 02:45	
EPA 6020	Aluminum	1170	ug/L	20.0	05/08/23 13:49	
EPA 6020	Manganese	2700	ug/L	20.0	05/05/23 10:38	
EPA 6020	Boron, Dissolved	35400	ug/L	10000	05/05/23 05:25	N2
EPA 6020	Manganese, Dissolved	2770	ug/L	20.0	05/05/23 10:24	
EPA 6020	Molybdenum, Dissolved	15.6	ug/L	10.0	05/05/23 09:49	
SM 2320B	Alkalinity, Total as CaCO3	562	mg/L	10.0	05/04/23 00:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	562	mg/L	10.0	05/04/23 00:11	
SM 2540C	Total Dissolved Solids	2720	mg/L	40.0	05/03/23 17:35	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	05/09/23 15:09	H3
HACH 8146	Iron, Ferrous	0.70	mg/L	0.50	05/04/23 14:38	H3,N2
EPA 365.1	Phosphate as P04	1.1	mg/L	0.15	05/07/23 15:32	
SM 5310C	Total Organic Carbon	9.3	mg/L	1.0	05/06/23 20:40	
SM 5310C	Dissolved Organic Carbon	9.2	mg/L	1.0	05/05/23 20:41	
50343711003	**MW-11**					
EPA 6010	Iron	1540	ug/L	100	05/08/23 14:09	
EPA 6010	Magnesium	42900	ug/L	1000	05/08/23 14:09	
EPA 6010	Silica	20100	ug/L	450	05/08/23 14:09	N2
EPA 6010	Sodium	3270	ug/L	1000	05/08/23 14:09	

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 P3R2
Pace Project No.: 50343711

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50343711003	**MW-11**					
EPA 6010	Magnesium, Dissolved	46400	ug/L	1000	05/06/23 02:48	
EPA 6020	Aluminum	192	ug/L	10.0	05/05/23 13:23	
EPA 6020	Manganese	2.6	ug/L	1.0	05/05/23 13:23	
EPA 6020	Boron, Dissolved	1100	ug/L	500	05/05/23 05:28	N2
SM 2320B	Alkalinity, Total as CaCO3	159	mg/L	10.0	05/04/23 00:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	159	mg/L	10.0	05/04/23 00:11	
SM 2540C	Total Dissolved Solids	764	mg/L	10.0	05/03/23 17:41	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	05/09/23 15:11	H3
EPA 353.2	Nitrogen, Nitrate	1.6	mg/L	0.10	05/03/23 18:29	
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	05/07/23 15:33	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/05/23 20:52	
50343711004	**MW-12**					
EPA 6010	Iron	7770	ug/L	100	05/08/23 14:11	
EPA 6010	Magnesium	20200	ug/L	1000	05/08/23 14:11	
EPA 6010	Potassium	2090	ug/L	1000	05/08/23 14:11	
EPA 6010	Silica	36700	ug/L	450	05/08/23 14:11	N2
EPA 6010	Sodium	3700	ug/L	1000	05/08/23 14:11	
EPA 6010	Magnesium, Dissolved	20600	ug/L	1000	05/06/23 02:50	
EPA 6020	Aluminum	4390	ug/L	50.0	05/05/23 10:49	
EPA 6020	Manganese	163	ug/L	1.0	05/05/23 13:27	
SM 2320B	Alkalinity, Total as CaCO3	166	mg/L	10.0	05/04/23 00:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	10.0	05/04/23 00:11	
SM 2540C	Total Dissolved Solids	246	mg/L	10.0	05/03/23 17:42	
SM 4500-H+B	pH at 25 Degrees C	7.9	Std. Units	0.10	05/09/23 15:12	H3
EPA 353.2	Nitrogen, Nitrate	8.2	mg/L	0.50	05/03/23 19:40	
50343711005	**MW-13**					
EPA 9056	Bromide	0.058	mg/L	0.050	05/06/23 04:44	
EPA 6010	Magnesium	16000	ug/L	1000	05/09/23 13:39	
EPA 6010	Potassium	22300	ug/L	1000	05/08/23 17:03	
EPA 6010	Silica	15300	ug/L	450	05/08/23 17:03	N2
EPA 6010	Sodium	17600	ug/L	1000	05/08/23 17:03	
EPA 6010	Lithium, Dissolved	179	ug/L	20.0	05/06/23 02:52	
EPA 6010	Magnesium, Dissolved	17600	ug/L	1000	05/06/23 02:52	
EPA 6010	Potassium, Dissolved	22800	ug/L	1000	05/06/23 02:52	
EPA 6020	Aluminum	13.1	ug/L	10.0	05/05/23 13:30	
EPA 6020	Manganese	2.7	ug/L	1.0	05/05/23 13:30	
EPA 6020	Boron, Dissolved	1420	ug/L	500	05/05/23 05:35	N2
EPA 6020	Molybdenum, Dissolved	39.7	ug/L	10.0	05/05/23 10:00	
SM 2320B	Alkalinity, Total as CaCO3	178	mg/L	10.0	05/04/23 00:11	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	178	mg/L	10.0	05/04/23 00:11	
SM 2540C	Total Dissolved Solids	1640	mg/L	20.0	05/03/23 17:42	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	05/09/23 15:13	H3
EPA 353.2	Nitrogen, Nitrate	0.22	mg/L	0.10	05/03/23 18:46	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	05/06/23 21:10	
SM 5310C	Dissolved Organic Carbon	1.9	mg/L	1.0	05/05/23 21:12	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-1 **Lab ID: 50343711001** Collected: 05/02/23 10:25 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/05/23 12:54	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/05/23 09:11	05/08/23 14:05	7439-89-6	
Magnesium	**42500**	ug/L	1000	71.8	1	05/05/23 09:11	05/08/23 14:05	7439-95-4	
Potassium	**1500**	ug/L	1000	281	1	05/05/23 09:11	05/08/23 14:05	7440-09-7	
Silica	**22700**	ug/L	450		1	05/05/23 09:11	05/08/23 14:05	7631-86-9	N2
Sodium	**3580**	ug/L	1000	214	1	05/05/23 09:11	05/08/23 14:05	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/05/23 09:10	05/06/23 02:43	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/05/23 09:10	05/06/23 02:43	7439-93-2	
Magnesium, Dissolved	**45500**	ug/L	1000	71.8	1	05/05/23 09:10	05/06/23 02:43	7439-95-4	
Potassium, Dissolved	**1590**	ug/L	1000	281	1	05/05/23 09:10	05/06/23 02:43	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**15.2**	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 12:02	7429-90-5	
Manganese	**1.5**	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 12:02	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 09:24	7429-90-5	
Boron, Dissolved	**155**	ug/L	100	14.8	5	05/04/23 15:15	05/05/23 05:00	7440-42-8	N2
Manganese, Dissolved	**4.5**	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 09:24	7439-96-5	CR
Molybdenum, Dissolved	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 09:24	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**321**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Bicarbonate (CaCO3)	**321**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/04/23 00:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**621**	mg/L	10.0	10.0	1		05/03/23 17:35		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.8**	Std. Units	0.10	0.10	1		05/09/23 15:07		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-1 **Lab ID: 50343711001** Collected: 05/02/23 10:25 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/05/23 11:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/04/23 14:36	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**4.4**	mg/L	0.10	0.011	1		05/03/23 15:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/03/23 15:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/05/23 13:00	05/07/23 15:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.0**	mg/L	1.0	0.24	1		05/06/23 20:28	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/05/23 20:29		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-10 **Lab ID: 50343711002** Collected: 05/02/23 13:32 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**1.5**	mg/L	0.050	0.0090	1		05/06/23 03:45	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**31200**	ug/L	100	48.8	1	05/05/23 09:11	05/08/23 14:07	7439-89-6	
Magnesium	**88700**	ug/L	1000	71.8	1	05/05/23 09:11	05/08/23 14:07	7439-95-4	
Potassium	**35700**	ug/L	1000	281	1	05/05/23 09:11	05/08/23 14:07	7440-09-7	
Silica	**32300**	ug/L	450		1	05/05/23 09:11	05/08/23 14:07	7631-86-9	N2
Sodium	**75600**	ug/L	1000	214	1	05/05/23 09:11	05/08/23 14:07	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**29900**	ug/L	100	48.8	1	05/05/23 09:10	05/06/23 02:45	7439-89-6	
Lithium, Dissolved	**33.3**	ug/L	20.0	6.2	1	05/05/23 09:10	05/06/23 02:45	7439-93-2	
Magnesium, Dissolved	**94500**	ug/L	1000	71.8	1	05/05/23 09:10	05/06/23 02:45	7439-95-4	
Potassium, Dissolved	**37000**	ug/L	1000	281	1	05/05/23 09:10	05/06/23 02:45	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**1170**	ug/L	20.0	4.0	2	05/04/23 15:15	05/08/23 13:49	7429-90-5	
Manganese	**2700**	ug/L	20.0	3.2	20	05/04/23 15:15	05/05/23 10:38	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 09:49	7429-90-5	
Boron, Dissolved	**35400**	ug/L	10000	1480	500	05/04/23 15:15	05/05/23 05:25	7440-42-8	N2
Manganese, Dissolved	**2770**	ug/L	20.0	3.2	20	05/04/23 15:15	05/05/23 10:24	7439-96-5	
Molybdenum, Dissolved	**15.6**	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 09:49	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**562**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Bicarbonate (CaCO3)	**562**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/04/23 00:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2720**	mg/L	40.0	40.0	1		05/03/23 17:35		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.6**	Std. Units	0.10	0.10	1		05/09/23 15:09		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-10 **Lab ID: 50343711002** Collected: 05/02/23 13:32 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/05/23 11:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.70**	mg/L	0.50	0.088	2.5		05/04/23 14:38	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/03/23 18:01	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/03/23 18:01	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.1**	mg/L	0.15	0.15	1	05/05/23 13:00	05/07/23 15:32		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**9.3**	mg/L	1.0	0.24	1		05/06/23 20:40	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**9.2**	mg/L	1.0	0.24	1		05/05/23 20:41		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-11 **Lab ID: 50343711003** Collected: 05/02/23 15:05 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/06/23 04:05	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**1540**	ug/L	100	48.8	1	05/05/23 09:11	05/08/23 14:09	7439-89-6	
Magnesium	**42900**	ug/L	1000	71.8	1	05/05/23 09:11	05/08/23 14:09	7439-95-4	
Potassium	ND	ug/L	1000	281	1	05/05/23 09:11	05/08/23 14:09	7440-09-7	
Silica	**20100**	ug/L	450		1	05/05/23 09:11	05/08/23 14:09	7631-86-9	N2
Sodium	**3270**	ug/L	1000	214	1	05/05/23 09:11	05/08/23 14:09	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/05/23 09:10	05/06/23 02:48	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/05/23 09:10	05/06/23 02:48	7439-93-2	
Magnesium, Dissolved	**46400**	ug/L	1000	71.8	1	05/05/23 09:10	05/06/23 02:48	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/05/23 09:10	05/06/23 02:48	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**192**	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 13:23	7429-90-5	
Manganese	**2.6**	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 13:23	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 09:56	7429-90-5	
Boron, Dissolved	**1100**	ug/L	500	73.8	25	05/04/23 15:15	05/05/23 05:28	7440-42-8	N2
Manganese, Dissolved	ND	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 09:56	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 09:56	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**159**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Bicarbonate (CaCO3)	**159**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/04/23 00:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**764**	mg/L	10.0	10.0	1		05/03/23 17:41		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.8**	Std. Units	0.10	0.10	1		05/09/23 15:11		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-11 **Lab ID: 50343711003** Collected: 05/02/23 15:05 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/05/23 11:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/04/23 14:39	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	0.011	1		05/03/23 18:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/03/23 18:29	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.31**	mg/L	0.15	0.15	1	05/05/23 13:00	05/07/23 15:33		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/06/23 20:51	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.0**	mg/L	1.0	0.24	1		05/05/23 20:52		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-12 **Lab ID: 50343711004** Collected: 05/02/23 16:30 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/06/23 04:24	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**7770**	ug/L	100	48.8	1	05/05/23 09:11	05/08/23 14:11	7439-89-6	
Magnesium	**20200**	ug/L	1000	71.8	1	05/05/23 09:11	05/08/23 14:11	7439-95-4	
Potassium	**2090**	ug/L	1000	281	1	05/05/23 09:11	05/08/23 14:11	7440-09-7	
Silica	**36700**	ug/L	450		1	05/05/23 09:11	05/08/23 14:11	7631-86-9	N2
Sodium	**3700**	ug/L	1000	214	1	05/05/23 09:11	05/08/23 14:11	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/05/23 09:10	05/06/23 02:50	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/05/23 09:10	05/06/23 02:50	7439-93-2	
Magnesium, Dissolved	**20600**	ug/L	1000	71.8	1	05/05/23 09:10	05/06/23 02:50	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/05/23 09:10	05/06/23 02:50	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**4390**	ug/L	50.0	10	5	05/04/23 15:15	05/05/23 10:49	7429-90-5	
Manganese	**163**	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 13:27	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 05:49	7429-90-5	
Boron, Dissolved	ND	ug/L	20.0	3.0	1	05/04/23 15:15	05/05/23 05:49	7440-42-8	N2
Manganese, Dissolved	ND	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 05:49	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 05:49	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**166**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Bicarbonate (CaCO3)	**166**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/04/23 00:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**246**	mg/L	10.0	10.0	1		05/03/23 17:42		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.9**	Std. Units	0.10	0.10	1		05/09/23 15:12		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-12 **Lab ID: 50343711004** Collected: 05/02/23 16:30 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/05/23 11:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/04/23 14:39	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**8.2**	mg/L	0.50	0.055	5		05/03/23 19:40	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	0.020	5		05/03/23 19:40	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.50	0.50	1	05/05/23 13:00	05/07/23 15:33		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	4.0	0.94	4		05/06/23 21:01	7440-44-0	D3
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		05/05/23 21:02		

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-13 **Lab ID: 50343711005** Collected: 05/02/23 17:40 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.058**	mg/L	0.050	0.0090	1		05/06/23 04:44	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/05/23 09:11	05/08/23 17:03	7439-89-6	
Magnesium	**16000**	ug/L	1000	71.8	1	05/05/23 09:11	05/09/23 13:39	7439-95-4	
Potassium	**22300**	ug/L	1000	281	1	05/05/23 09:11	05/08/23 17:03	7440-09-7	
Silica	**15300**	ug/L	450		1	05/05/23 09:11	05/08/23 17:03	7631-86-9	N2
Sodium	**17600**	ug/L	1000	214	1	05/05/23 09:11	05/08/23 17:03	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/05/23 09:10	05/06/23 02:52	7439-89-6	
Lithium, Dissolved	**179**	ug/L	20.0	6.2	1	05/05/23 09:10	05/06/23 02:52	7439-93-2	
Magnesium, Dissolved	**17600**	ug/L	1000	71.8	1	05/05/23 09:10	05/06/23 02:52	7439-95-4	
Potassium, Dissolved	**22800**	ug/L	1000	281	1	05/05/23 09:10	05/06/23 02:52	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**13.1**	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 13:30	7429-90-5	
Manganese	**2.7**	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 13:30	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.0	1	05/04/23 15:15	05/05/23 10:00	7429-90-5	
Boron, Dissolved	**1420**	ug/L	500	73.8	25	05/04/23 15:15	05/05/23 05:35	7440-42-8	N2
Manganese, Dissolved	ND	ug/L	1.0	0.16	1	05/04/23 15:15	05/05/23 10:00	7439-96-5	
Molybdenum, Dissolved	**39.7**	ug/L	10.0	0.074	1	05/04/23 15:15	05/05/23 10:00	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**178**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Bicarbonate (CaCO3)	**178**	mg/L	10.0	10.0	1		05/04/23 00:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/04/23 00:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1640**	mg/L	20.0	20.0	1		05/03/23 17:42		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.10	1		05/09/23 15:13		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R2
Pace Project No.: 50343711

Sample: MW-13 **Lab ID: 50343711005** Collected: 05/02/23 17:40 Received: 05/03/23 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/05/23 11:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/04/23 14:40	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	0.011	1		05/03/23 18:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/03/23 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	ND	mg/L	0.15	0.15	1	05/05/23 13:00	05/07/23 15:34		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/06/23 21:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.9**	mg/L	1.0	0.24	1		05/05/23 21:12		

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731453
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001

METHOD BLANK: 3356592 Matrix: Water
Associated Lab Samples: 50343711001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/04/23 20:36	

LABORATORY CONTROL SAMPLE: 3356593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.98	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356594 3356595

Parameter	Units	50343595002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	1	1	0.96	0.96	96	96	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731616
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357480 Matrix: Water
Associated Lab Samples: 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/05/23 23:12	

LABORATORY CONTROL SAMPLE: 3357481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.98	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357482 3357483

Parameter	Units	50343172002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.23	1	1	1.2	1.2	99	98	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731684
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357849 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	100	48.8	05/08/23 13:17	
Magnesium	ug/L	ND	1000	71.8	05/08/23 13:17	
Potassium	ug/L	ND	1000	281	05/08/23 13:17	
Silica	ug/L	ND	450		05/08/23 13:17	N2
Sodium	ug/L	ND	1000	214	05/08/23 13:17	

LABORATORY CONTROL SAMPLE: 3357850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10200	102	80-120	
Magnesium	ug/L	10000	9370	94	80-120	
Potassium	ug/L	10000	10200	102	80-120	
Silica	ug/L	10700	10600	99	80-120	N2
Sodium	ug/L	10000	9840	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357851 3357852

Parameter	Units	50343709001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	464	10000	10000	10200	10500	97	100	75-125	3	20	
Magnesium	ug/L	43200	10000	10000	51400	53300	83	101	75-125	3	20	
Potassium	ug/L	1550	10000	10000	11500	12000	99	105	75-125	4	20	
Silica	ug/L	24200	10700	10700	34200	35700	93	107	75-125	4	20	N2
Sodium	ug/L	3570	10000	10000	12900	13500	94	99	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731786
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3358694 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/06/23 02:12	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/06/23 02:12	
Magnesium, Dissolved	ug/L	ND	1000	71.8	05/06/23 02:12	
Potassium, Dissolved	ug/L	ND	1000	281	05/06/23 02:12	

LABORATORY CONTROL SAMPLE: 3358695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9840	98	80-120	
Lithium, Dissolved	ug/L	1000	948	95	80-120	
Magnesium, Dissolved	ug/L	10000	9550	95	80-120	
Potassium, Dissolved	ug/L	10000	9410	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3358696 3358697

Parameter	Units	50343595002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	10000	10000	10000	9630	100	96	75-125	4	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1010	986	101	98	75-125	2	20	
Magnesium, Dissolved	ug/L	27600	10000	10000	35900	34400	83	68	75-125	4	20	M0
Potassium, Dissolved	ug/L	4480	10000	10000	14200	13800	97	93	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731539
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357021 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	2.0	05/05/23 06:14	
Manganese	ug/L	ND	1.0	0.16	05/05/23 06:14	

LABORATORY CONTROL SAMPLE: 3357022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	403	101	80-120	
Manganese	ug/L	40	42.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357023 3357024

Parameter	Units	50343711001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	15.2	400	400	406	407	98	98	75-125	0	20	
Manganese	ug/L	1.5	40	40	41.4	41.2	100	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731543
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357051 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	2.0	05/05/23 04:07	
Boron, Dissolved	ug/L	ND	20.0	3.0	05/05/23 04:07	N2
Manganese, Dissolved	ug/L	ND	1.0	0.16	05/05/23 04:07	
Molybdenum, Dissolved	ug/L	ND	10.0	0.074	05/05/23 04:07	

LABORATORY CONTROL SAMPLE: 3357052

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	395	99	80-120	
Boron, Dissolved	ug/L	40	41.8	105	80-120	N2
Manganese, Dissolved	ug/L	40	41.9	105	80-120	
Molybdenum, Dissolved	ug/L	40	40.2	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357053 3357054

Parameter	Units	50343711001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	396	391	98	97	75-125	1	20	
Boron, Dissolved	ug/L	155	40	40	198	202	109	118	75-125	2	20	N2
Manganese, Dissolved	ug/L	4.5	40	40	44.4	44.9	100	101	75-125	1	20	
Molybdenum, Dissolved	ug/L	ND	40	40	40.7	40.8	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731493
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3356815 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/04/23 00:11	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/04/23 00:11	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/04/23 00:11	

LABORATORY CONTROL SAMPLE: 3356816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.2	108	90-110	

SAMPLE DUPLICATE: 3356817

Parameter	Units	50343604001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	143	147	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	143	147	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3356818

Parameter	Units	50343699006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	260	264	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	260	264	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731431 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3356515 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/03/23 17:29	

LABORATORY CONTROL SAMPLE: 3356516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 3356517

Parameter	Units	50343711002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2720	2770	2	10	

SAMPLE DUPLICATE: 3356518

Parameter	Units	50343734002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2740	2740	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 732454
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: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

SAMPLE DUPLICATE: 3361537

Parameter	Units	50343709003 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: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731868
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: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3358950 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/05/23 11:39	

LABORATORY CONTROL SAMPLE: 3358951

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: 3358952 3358953

Parameter	Units	50343707001 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	0.55	0.57	110	113	90-110	3	20	M0

MATRIX SPIKE SAMPLE: 3358954

Parameter	Units	50343711001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.60	121	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731605 | Analysis Method: HACH 8146
QC Batch Method: HACH 8146 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357453 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/04/23 14:36	H3,N2

LABORATORY CONTROL SAMPLE: 3357454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3357455 3357456

Parameter	Units	50343711001 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	104	90-110	1	20	H3,N2

MATRIX SPIKE SAMPLE: 3357457

Parameter	Units	50343741002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	ND	1	1.1	108	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731350
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: 50343711001

METHOD BLANK: 3356212 Matrix: Water
Associated Lab Samples: 50343711001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/03/23 14:26	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/03/23 14:26	

LABORATORY CONTROL SAMPLE: 3356213

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356214 3356215

Parameter	Units	50343706012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	5.6	5	5	10.4	10.4	97	96	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	5	5	5.0	5.0	101	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3356216

Parameter	Units	50343711001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.4	5	9.2	97	90-110	
Nitrogen, Nitrite	mg/L	ND	5	4.8	96	90-110	

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731351
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: 50343711002

METHOD BLANK: 3356218 Matrix: Water
Associated Lab Samples: 50343711002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/03/23 17:17	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/03/23 17:17	

LABORATORY CONTROL SAMPLE: 3356219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356220 3356221

Parameter	Units	50343700013 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	87	87	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	97	97	90-110	0	20	

MATRIX SPIKE SAMPLE: 3356222

Parameter	Units	50343699005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	99	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	102	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731353
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: 50343711003, 50343711004, 50343711005

METHOD BLANK: 3356225 Matrix: Water
Associated Lab Samples: 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/03/23 18:11	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/03/23 18:11	

LABORATORY CONTROL SAMPLE: 3356226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3356227 3356228

Parameter	Units	50343700002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.97	0.97	96	96	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	

MATRIX SPIKE SAMPLE: 3356229

Parameter	Units	50343711005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.22	1	1.2	102	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	103	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731875 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: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3358984 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/07/23 15:24	

LABORATORY CONTROL SAMPLE: 3358985

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3358986 3358987

Parameter	Units	50343589002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.4	1.4				2		

MATRIX SPIKE SAMPLE: 3358988

Parameter	Units	50343741002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.4			

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731681 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357840 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/06/23 14:54	

LABORATORY CONTROL SAMPLE: 3357841

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: 3357842 3357843

Parameter	Units	50343073001 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	<64000 ug/L	1280	1280	1330	1310	100	98	80-120	2	20	

MATRIX SPIKE SAMPLE: 3357844

Parameter	Units	50343073002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	408000 ug/L	1000	1480	107	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P3R2
Pace Project No.: 50343711

QC Batch: 731675
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

METHOD BLANK: 3357789 Matrix: Water
Associated Lab Samples: 50343711001, 50343711002, 50343711003, 50343711004, 50343711005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	05/05/23 15:44	

LABORATORY CONTROL SAMPLE: 3357790

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: 3357791 3357792

Parameter	Units	50343595002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	10	10	11.0	10.8	105	104	80-120	1	20	

MATRIX SPIKE SAMPLE: 3357793

Parameter	Units	50343595005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	ND	10	10.8	100	80-120	

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QUALIFIERS

Project: Petersburg P3R2
Pace Project No.: 50343711

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

CR	The dissolved metal result was greater than the total metal result for this element. Results were confirmed by reanalysis.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50343711001	**MW-1**	EPA 9056	731453		
50343711002	**MW-10**	EPA 9056	731616		
50343711003	**MW-11**	EPA 9056	731616		
50343711004	**MW-12**	EPA 9056	731616		
50343711005	**MW-13**	EPA 9056	731616		
50343711001	**MW-1**	EPA 3010	731684	EPA 6010	732193
50343711002	**MW-10**	EPA 3010	731684	EPA 6010	732193
50343711003	**MW-11**	EPA 3010	731684	EPA 6010	732193
50343711004	**MW-12**	EPA 3010	731684	EPA 6010	732193
50343711005	**MW-13**	EPA 3010	731684	EPA 6010	732193
50343711001	**MW-1**	EPA 3010	731786	EPA 6010	732034
50343711002	**MW-10**	EPA 3010	731786	EPA 6010	732034
50343711003	**MW-11**	EPA 3010	731786	EPA 6010	732034
50343711004	**MW-12**	EPA 3010	731786	EPA 6010	732034
50343711005	**MW-13**	EPA 3010	731786	EPA 6010	732034
50343711001	**MW-1**	EPA 200.2	731539	EPA 6020	731784
50343711002	**MW-10**	EPA 200.2	731539	EPA 6020	731784
50343711003	**MW-11**	EPA 200.2	731539	EPA 6020	731784
50343711004	**MW-12**	EPA 200.2	731539	EPA 6020	731784
50343711005	**MW-13**	EPA 200.2	731539	EPA 6020	731784
50343711001	**MW-1**	EPA 200.2	731543	EPA 6020	731785
50343711002	**MW-10**	EPA 200.2	731543	EPA 6020	731785
50343711003	**MW-11**	EPA 200.2	731543	EPA 6020	731785
50343711004	**MW-12**	EPA 200.2	731543	EPA 6020	731785
50343711005	**MW-13**	EPA 200.2	731543	EPA 6020	731785
50343711001	**MW-1**	SM 2320B	731493		
50343711002	**MW-10**	SM 2320B	731493		
50343711003	**MW-11**	SM 2320B	731493		
50343711004	**MW-12**	SM 2320B	731493		
50343711005	**MW-13**	SM 2320B	731493		
50343711001	**MW-1**	SM 2540C	731431		
50343711002	**MW-10**	SM 2540C	731431		
50343711003	**MW-11**	SM 2540C	731431		
50343711004	**MW-12**	SM 2540C	731431		
50343711005	**MW-13**	SM 2540C	731431		
50343711001	**MW-1**	SM 4500-H+B	732454		
50343711002	**MW-10**	SM 4500-H+B	732454		
50343711003	**MW-11**	SM 4500-H+B	732454		
50343711004	**MW-12**	SM 4500-H+B	732454		
50343711005	**MW-13**	SM 4500-H+B	732454		
50343711001	**MW-1**	SM 4500-S2-D	731868		
50343711002	**MW-10**	SM 4500-S2-D	731868		
50343711003	**MW-11**	SM 4500-S2-D	731868		
50343711004	**MW-12**	SM 4500-S2-D	731868		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R2
Pace Project No.: 50343711

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50343711005	**MW-13**	SM 4500-S2-D	731868		
50343711001	**MW-1**	HACH 8146	731605		
50343711002	**MW-10**	HACH 8146	731605		
50343711003	**MW-11**	HACH 8146	731605		
50343711004	**MW-12**	HACH 8146	731605		
50343711005	**MW-13**	HACH 8146	731605		
50343711001	**MW-1**	EPA 353.2	731350		
50343711002	**MW-10**	EPA 353.2	731351		
50343711003	**MW-11**	EPA 353.2	731353		
50343711004	**MW-12**	EPA 353.2	731353		
50343711005	**MW-13**	EPA 353.2	731353		
50343711001	**MW-1**	EPA 365.1	731875	EPA 365.1	732116
50343711002	**MW-10**	EPA 365.1	731875	EPA 365.1	732116
50343711003	**MW-11**	EPA 365.1	731875	EPA 365.1	732116
50343711004	**MW-12**	EPA 365.1	731875	EPA 365.1	732116
50343711005	**MW-13**	EPA 365.1	731875	EPA 365.1	732116
50343711001	**MW-1**	SM 5310C	731681		
50343711002	**MW-10**	SM 5310C	731681		
50343711003	**MW-11**	SM 5310C	731681		
50343711004	**MW-12**	SM 5310C	731681		
50343711005	**MW-13**	SM 5310C	731681		
50343711001	**MW-1**	SM 5310C	731675		
50343711002	**MW-10**	SM 5310C	731675		
50343711003	**MW-11**	SM 5310C	731675		
50343711004	**MW-12**	SM 5310C	731675		
50343711005	**MW-13**	SM 5310C	731675		

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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50343711

50343711

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:		Regulatory Agency
Email:	mark.breting@oneatlas.com	Purchase Order #:		Pace Quote:		
Phone:	(317)579-4082 Fax:	Project Name:	Petersburg P3R2	Pace Project Manager:	Will Statz	State / Location
Requested Due Date:		Project #:		Pace Profile #:	10498/44	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)	
	Requested Analysis Filtered (Y/N)																					Y				Y						
1	MW-1			5-2-23	1025				9	X	X	X		X																	cx1
2	MW-10			5/2/23	1332				9	X	X	X		X																	cx2
3	MW-11			5/2/23	1505				9	X	X	X		X																	cx3
4	MW-12			5/2/23	1630				9	X	X	X		X																	cx4
5	MW-13			5/2/23	1740				9	X	X	X		X																	cx5
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 Fe, Mn, Mg, Na, K, sila) 6020 - Al		5.3.23	7:00		5-3-23	7:00				
** Dissolved FF 6010 (Fe, Mn, Mg, K, Li)		5-3-23	9:30		5-3-23	930	1.9	Y	N	Y
Diss 6020 - B, Al, Mo							1.6			
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	NICK WALTON					
SIGNATURE of SAMPLER:		DATE Signed: 5-2-23				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: WS 1035

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

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

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

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

4. **Cooler Temperature(s):** 1.8/1.9 | 1.5/1.6 | | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** ~~HNO3 (<2)~~ ~~H2SO4 (<2)~~ ~~NaOH (>10)~~ **NaOH/ZnAc (>9)** Any non-conformance to ~~pH~~ recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO_2/NO_3	✓	WS ✗				
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:

COC PAGE 1 of 1

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER								
		SBS																												Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		DI																												Red	Yellow	Green	Black
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1				1	2	1	1	1		1					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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P3R3
Pace Project No.: 50344228

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R3
Pace Project No.: 50344228

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Petersburg P3R3
Pace Project No.: 50344228

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344228001	**MW-14**	Water	05/07/23 07:50	05/08/23 10:00
50344228002	**Field Blank 2**	Water	05/07/23 07:50	05/08/23 10:00
50344228003	**Dup 2**	Water	05/07/23 07:50	05/08/23 10:00
50344228004	**MW-15**	Water	05/07/23 12:00	05/08/23 10:00
50344228005	**MW-16**	Water	05/07/23 13:40	05/08/23 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R3
Pace Project No.: 50344228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344228001	**MW-14**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344228002	**Field Blank 2**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6020	CAW	2	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344228003	**Dup 2**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R3
Pace Project No.: 50344228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344228004	**MW-15**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344228005	**MW-16**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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SUMMARY OF DETECTION

Project: Petersburg P3R3
Pace Project No.: 50344228

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344228001	**MW-14**					
EPA 9056	Chloride	14.1	mg/L	2.5	05/13/23 14:17	
EPA 9056	Sulfate	226	mg/L	2.5	05/13/23 14:17	
EPA 6010	Iron	6710	ug/L	100	05/12/23 11:05	
EPA 6010	Magnesium	31300	ug/L	1000	05/12/23 11:05	
EPA 6010	Potassium	1470	ug/L	1000	05/12/23 11:05	
EPA 6010	Silica	16500	ug/L	450	05/12/23 11:05	N2
EPA 6010	Sodium	24200	ug/L	1000	05/12/23 11:05	
EPA 6010	Iron, Dissolved	6180	ug/L	100	05/12/23 12:15	
EPA 6010	Magnesium, Dissolved	30800	ug/L	1000	05/12/23 12:15	
EPA 6010	Potassium, Dissolved	1540	ug/L	1000	05/12/23 12:15	
EPA 6020	Aluminum	189	ug/L	10.0	05/11/23 22:27	
EPA 6020	Manganese	2760	ug/L	20.0	05/12/23 19:50	
EPA 6020	Boron, Dissolved	527	ug/L	400	05/10/23 04:54	N2
EPA 6020	Manganese, Dissolved	2630	ug/L	20.0	05/10/23 04:54	
SM 2320B	Alkalinity, Total as CaCO3	423	mg/L	10.0	05/09/23 02:10	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	423	mg/L	10.0	05/09/23 02:10	
SM 2540C	Total Dissolved Solids	717	mg/L	10.0	05/11/23 08:28	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/10/23 18:48	H3
HACH 8146	Iron, Ferrous	1.1	mg/L	0.50	05/10/23 15:08	H3,N2
EPA 365.1	Phosphate as P04	0.67	mg/L	0.15	05/17/23 14:34	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/11/23 01:53	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	05/11/23 19:34	
50344228002	**Field Blank 2**					
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	05/10/23 18:51	H3
50344228003	**Dup 2**					
EPA 6010	Iron	8180	ug/L	100	05/12/23 11:19	
EPA 6010	Magnesium	30800	ug/L	1000	05/12/23 11:19	
EPA 6010	Potassium	1610	ug/L	1000	05/12/23 11:19	
EPA 6010	Silica	16800	ug/L	450	05/12/23 11:19	N2
EPA 6010	Sodium	24000	ug/L	1000	05/12/23 11:19	
EPA 6010	Iron, Dissolved	6560	ug/L	100	05/12/23 12:26	
EPA 6010	Magnesium, Dissolved	30800	ug/L	1000	05/12/23 12:26	
EPA 6010	Potassium, Dissolved	1530	ug/L	1000	05/12/23 12:26	
EPA 6020	Aluminum	109	ug/L	10.0	05/11/23 22:53	
EPA 6020	Manganese	2590	ug/L	20.0	05/12/23 20:13	
EPA 6020	Boron, Dissolved	528	ug/L	400	05/10/23 05:19	N2
EPA 6020	Manganese, Dissolved	2770	ug/L	20.0	05/10/23 05:19	
SM 2320B	Alkalinity, Total as CaCO3	424	mg/L	10.0	05/09/23 02:10	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	424	mg/L	10.0	05/09/23 02:10	
SM 2540C	Total Dissolved Solids	726	mg/L	10.0	05/11/23 08:29	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/10/23 18:52	H3
HACH 8146	Iron, Ferrous	0.85	mg/L	0.20	05/10/23 15:09	H3,N2
EPA 365.1	Phosphate as P04	1.0	mg/L	0.15	05/17/23 14:37	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	05/11/23 02:35	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	05/11/23 20:37	

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 P3R3
Pace Project No.: 50344228

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344228004	**MW-15**					
EPA 9056	Bromide	0.67	mg/L	0.050	05/12/23 20:37	
EPA 6010	Iron	2110	ug/L	100	05/12/23 11:24	
EPA 6010	Magnesium	39600	ug/L	1000	05/12/23 11:24	
EPA 6010	Potassium	57900	ug/L	1000	05/12/23 11:24	
EPA 6010	Silica	18400	ug/L	450	05/12/23 11:24	N2
EPA 6010	Sodium	69100	ug/L	1000	05/12/23 11:24	
EPA 6010	Iron, Dissolved	2120	ug/L	100	05/12/23 12:29	
EPA 6010	Lithium, Dissolved	795	ug/L	20.0	05/12/23 12:29	
EPA 6010	Magnesium, Dissolved	40000	ug/L	1000	05/12/23 12:29	
EPA 6010	Potassium, Dissolved	58500	ug/L	1000	05/12/23 12:29	
EPA 6020	Manganese	430	ug/L	5.0	05/12/23 20:17	
EPA 6020	Boron, Dissolved	1280	ug/L	500	05/10/23 05:22	N2
EPA 6020	Manganese, Dissolved	421	ug/L	5.0	05/11/23 07:36	
EPA 6020	Molybdenum, Dissolved	104	ug/L	10.0	05/11/23 08:42	
SM 2320B	Alkalinity, Total as CaCO3	217	mg/L	10.0	05/09/23 02:10	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	217	mg/L	10.0	05/09/23 02:10	
SM 2540C	Total Dissolved Solids	1280	mg/L	20.0	05/11/23 08:29	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/10/23 18:53	H3
HACH 8146	Iron, Ferrous	0.91	mg/L	0.20	05/10/23 15:09	H3,N2
EPA 365.1	Phosphate as P04	0.34	mg/L	0.15	05/17/23 14:38	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	05/11/23 02:45	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	05/11/23 20:48	
50344228005	**MW-16**					
EPA 9056	Bromide	0.86	mg/L	0.050	05/12/23 20:56	
EPA 6010	Iron	9180	ug/L	100	05/12/23 11:31	
EPA 6010	Magnesium	34200	ug/L	1000	05/12/23 11:31	
EPA 6010	Potassium	202000	ug/L	5000	05/12/23 13:19	
EPA 6010	Silica	11300	ug/L	450	05/12/23 11:31	N2
EPA 6010	Sodium	75600	ug/L	1000	05/12/23 11:31	
EPA 6010	Iron, Dissolved	7800	ug/L	100	05/12/23 12:35	
EPA 6010	Lithium, Dissolved	1310	ug/L	20.0	05/12/23 12:35	
EPA 6010	Magnesium, Dissolved	35200	ug/L	1000	05/12/23 12:35	
EPA 6010	Potassium, Dissolved	197000	ug/L	3000	05/12/23 13:46	
EPA 6020	Aluminum	11.2	ug/L	10.0	05/11/23 23:00	
EPA 6020	Manganese	5530	ug/L	50.0	05/12/23 20:20	
EPA 6020	Boron, Dissolved	3230	ug/L	1000	05/10/23 05:26	N2
EPA 6020	Manganese, Dissolved	5420	ug/L	50.0	05/10/23 05:26	
EPA 6020	Molybdenum, Dissolved	328	ug/L	20.0	05/11/23 07:40	
SM 2320B	Alkalinity, Total as CaCO3	409	mg/L	10.0	05/09/23 02:10	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	409	mg/L	10.0	05/09/23 02:10	
SM 2540C	Total Dissolved Solids	2380	mg/L	20.0	05/11/23 08:30	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/10/23 18:54	H3
SM 4500-S2-D	Sulfide	0.043J	mg/L	0.10	05/10/23 14:57	
EPA 365.1	Phosphate as P04	2.0	mg/L	0.15	05/17/23 14:38	
SM 5310C	Total Organic Carbon	2.5	mg/L	1.0	05/11/23 12:11	
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	05/11/23 20:59	

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-14 **Lab ID: 50344228001** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/12/23 17:28	24959-67-9	
Chloride	**14.1**	mg/L	2.5	0.67	10		05/13/23 14:17	16887-00-6	
Sulfate	**226**	mg/L	2.5	0.85	10		05/13/23 14:17	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**6710**	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:05	7439-89-6	
Magnesium	**31300**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:05	7439-95-4	
Potassium	**1470**	ug/L	1000	200	1	05/10/23 17:09	05/12/23 11:05	7440-09-7	
Silica	**16500**	ug/L	450		1	05/10/23 17:09	05/12/23 11:05	7631-86-9	N2
Sodium	**24200**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:05	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**6180**	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:15	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:15	7439-93-2	
Magnesium, Dissolved	**30800**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:15	7439-95-4	
Potassium, Dissolved	**1540**	ug/L	1000	281	1	05/11/23 07:44	05/12/23 12:15	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**189**	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 22:27	7429-90-5	
Manganese	**2760**	ug/L	20.0	1.3	20	05/10/23 07:00	05/12/23 19:50	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 08:16	7429-90-5	
Boron, Dissolved	**527**	ug/L	400	59.0	20	05/09/23 07:30	05/10/23 04:54	7440-42-8	N2
Manganese, Dissolved	**2630**	ug/L	20.0	3.2	20	05/09/23 07:30	05/10/23 04:54	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/09/23 07:30	05/11/23 08:16	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**423**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**423**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 02:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**717**	mg/L	10.0	10.0	1		05/11/23 08:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		05/10/23 18:48		H3

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Indianapolis, IN 46268
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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-14 **Lab ID: 50344228001** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.1**	mg/L	0.50	0.088	2.5		05/10/23 15:08	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	0.011	1		05/08/23 22:00	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:00	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.67**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:34		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.4**	mg/L	1.0	0.24	1		05/11/23 01:53	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.0**	mg/L	1.0	0.24	1		05/11/23 19:34		

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: Field Blank 2 **Lab ID: 50344228002** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/12/23 19:21	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:16	7439-89-6	
Magnesium	ND	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:16	7439-95-4	
Potassium	ND	ug/L	1000	200	1	05/10/23 17:09	05/12/23 11:16	7440-09-7	
Silica	ND	ug/L	450		1	05/10/23 17:09	05/12/23 11:16	7631-86-9	N2
Sodium	ND	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:16	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 22:50	7429-90-5	
Manganese	ND	ug/L	1.0	0.065	1	05/10/23 07:00	05/11/23 22:50	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		05/11/23 08:29		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	0.10	1		05/10/23 18:51		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:09	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/08/23 22:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:06	14797-65-0	

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: Field Blank 2 **Lab ID: 50344228002** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.15	1	05/16/23 06:00	05/17/23 14:36		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/11/23 02:25	7440-44-0	

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: Dup 2 **Lab ID: 50344228003** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/12/23 19:40	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**8180**	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:19	7439-89-6	
Magnesium	**30800**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:19	7439-95-4	
Potassium	**1610**	ug/L	1000	200	1	05/10/23 17:09	05/12/23 11:19	7440-09-7	
Silica	**16800**	ug/L	450		1	05/10/23 17:09	05/12/23 11:19	7631-86-9	N2
Sodium	**24000**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:19	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**6560**	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:26	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:26	7439-93-2	
Magnesium, Dissolved	**30800**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:26	7439-95-4	
Potassium, Dissolved	**1530**	ug/L	1000	281	1	05/11/23 07:44	05/12/23 12:26	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**109**	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 22:53	7429-90-5	
Manganese	**2590**	ug/L	20.0	1.3	20	05/10/23 07:00	05/12/23 20:13	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 08:39	7429-90-5	
Boron, Dissolved	**528**	ug/L	400	59.0	20	05/09/23 07:30	05/10/23 05:19	7440-42-8	N2
Manganese, Dissolved	**2770**	ug/L	20.0	3.2	20	05/09/23 07:30	05/10/23 05:19	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/09/23 07:30	05/11/23 08:39	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**424**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**424**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 02:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**726**	mg/L	10.0	10.0	1		05/11/23 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.8**	Std. Units	0.10	0.10	1		05/10/23 18:52		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: Dup 2 **Lab ID: 50344228003** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.85**	mg/L	0.20	0.035	1		05/10/23 15:09	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/08/23 22:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:07	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.0**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:37		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/11/23 02:35	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.7**	mg/L	1.0	0.24	1		05/11/23 20:37		

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-15 **Lab ID: 50344228004** Collected: 05/07/23 12:00 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.67**	mg/L	0.050	0.0090	1		05/12/23 20:37	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**2110**	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:24	7439-89-6	
Magnesium	**39600**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:24	7439-95-4	
Potassium	**57900**	ug/L	1000	200	1	05/10/23 17:09	05/12/23 11:24	7440-09-7	
Silica	**18400**	ug/L	450		1	05/10/23 17:09	05/12/23 11:24	7631-86-9	N2
Sodium	**69100**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:24	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2120**	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:29	7439-89-6	
Lithium, Dissolved	**795**	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:29	7439-93-2	
Magnesium, Dissolved	**40000**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:29	7439-95-4	
Potassium, Dissolved	**58500**	ug/L	1000	281	1	05/11/23 07:44	05/12/23 12:29	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 22:57	7429-90-5	
Manganese	**430**	ug/L	5.0	0.32	5	05/10/23 07:00	05/12/23 20:17	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 08:42	7429-90-5	
Boron, Dissolved	**1280**	ug/L	500	73.8	25	05/09/23 07:30	05/10/23 05:22	7440-42-8	N2
Manganese, Dissolved	**421**	ug/L	5.0	0.14	5	05/09/23 07:30	05/11/23 07:36	7439-96-5	
Molybdenum, Dissolved	**104**	ug/L	10.0	0.031	1	05/09/23 07:30	05/11/23 08:42	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**217**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**217**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 02:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1280**	mg/L	20.0	20.0	1		05/11/23 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		05/10/23 18:53		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-15 **Lab ID: 50344228004** Collected: 05/07/23 12:00 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.91**	mg/L	0.20	0.035	1		05/10/23 15:09	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/08/23 22:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:09	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.34**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:38		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.6**	mg/L	1.0	0.24	1		05/11/23 02:45	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.7**	mg/L	1.0	0.24	1		05/11/23 20:48		

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-16 **Lab ID: 50344228005** Collected: 05/07/23 13:40 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.86**	mg/L	0.050	0.0090	1		05/12/23 20:56	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**9180**	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:31	7439-89-6	
Magnesium	**34200**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:31	7439-95-4	
Potassium	**202000**	ug/L	5000	1000	5	05/10/23 17:09	05/12/23 13:19	7440-09-7	
Silica	**11300**	ug/L	450		1	05/10/23 17:09	05/12/23 11:31	7631-86-9	N2
Sodium	**75600**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:31	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**7800**	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:35	7439-89-6	
Lithium, Dissolved	**1310**	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:35	7439-93-2	
Magnesium, Dissolved	**35200**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:35	7439-95-4	
Potassium, Dissolved	**197000**	ug/L	3000	843	3	05/11/23 07:44	05/12/23 13:46	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**11.2**	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 23:00	7429-90-5	
Manganese	**5530**	ug/L	50.0	3.2	50	05/10/23 07:00	05/12/23 20:20	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 08:46	7429-90-5	
Boron, Dissolved	**3230**	ug/L	1000	148	50	05/09/23 07:30	05/10/23 05:26	7440-42-8	N2
Manganese, Dissolved	**5420**	ug/L	50.0	8.0	50	05/09/23 07:30	05/10/23 05:26	7439-96-5	
Molybdenum, Dissolved	**328**	ug/L	20.0	0.062	2	05/09/23 07:30	05/11/23 07:40	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**409**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**409**	mg/L	10.0	10.0	1		05/09/23 02:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 02:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2380**	mg/L	20.0	20.0	1		05/11/23 08:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/10/23 18:54		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R3
Pace Project No.: 50344228

Sample: MW-16 **Lab ID: 50344228005** Collected: 05/07/23 13:40 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	**0.043J**	mg/L	0.10	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:10	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	0.011	1		05/08/23 22:11	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:11	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**2.0**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:38		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.5**	mg/L	1.0	0.24	1		05/11/23 12:11	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.7**	mg/L	1.0	0.24	1		05/11/23 20:59		

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732630
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3362311 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/12/23 23:27	
Chloride	mg/L	ND	0.25	0.067	05/12/23 23:27	
Sulfate	mg/L	ND	0.25	0.085	05/12/23 23:27	

LABORATORY CONTROL SAMPLE: 3362312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	1.0	104	80-120	
Chloride	mg/L	2.5	2.5	100	80-120	
Sulfate	mg/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362313 3362314

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	1	1	1.2	1.2	114	115	80-120	1	15	
Chloride	mg/L	14.1	25	25	39.1	39.4	100	101	80-120	1	15	
Sulfate	mg/L	226	50	50	272	270	91	88	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732532
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3361854 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	100	48.8	05/12/23 11:02	
Magnesium	ug/L	ND	1000	43.0	05/12/23 11:02	
Potassium	ug/L	ND	1000	200	05/12/23 11:02	
Silica	ug/L	ND	450		05/12/23 11:02	N2
Sodium	ug/L	ND	1000	284	05/12/23 11:02	

LABORATORY CONTROL SAMPLE: 3361855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2740	110	80-120	
Magnesium	ug/L	5000	5420	108	80-120	
Potassium	ug/L	5000	5120	102	80-120	
Silica	ug/L	5350	5680	106	80-120	N2
Sodium	ug/L	5000	5230	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361856 3361857

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6710	2500	2500	9120	9630	97	117	75-125	5	20	
Magnesium	ug/L	31300	5000	5000	36200	38000	99	134	75-125	5	20	P6
Potassium	ug/L	1470	5000	5000	6740	6890	105	108	75-125	2	20	
Silica	ug/L	16500	5350	5350	21700	22900	97	120	75-125	5	20	N2
Sodium	ug/L	24200	5000	5000	29500	30800	106	131	75-125	4	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361858 3361859

Parameter	Units	50344229002 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	2500	2500	2490	2420	99	96	75-125	3	20	
Magnesium	ug/L	7550	5000	5000	12600	12400	102	97	75-125	2	20	
Potassium	ug/L	223000	5000	5000	236000	234000	248	203	75-125	1	20	P6
Silica	ug/L	10200	5350	5350	16200	15900	112	106	75-125	2	20	N2
Sodium	ug/L	82600	5000	5000	93500	92800	217	202	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361860 3361861

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6630	2500	2500	9260	9880	105	130	75-125	6	20	M0
Magnesium	ug/L	30000	5000	5000	35600	37600	111	151	75-125	5	20	M0
Potassium	ug/L	1900	5000	5000	6790	7100	98	104	75-125	4	20	
Silica	ug/L	16500	5350	5350	22500	23800	113	137	75-125	6	20	N2
Sodium	ug/L	24700	5000	5000	30100	32000	106	144	75-125	6	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361862 3361863

Parameter	Units	50344231001 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	2500	2500	2450	2550	98	102	75-125	4	20	
Magnesium	ug/L	9840	5000	5000	14400	14700	91	98	75-125	2	20	
Potassium	ug/L	224000	5000	5000	222000	228000	-42	92	75-125	3	20	E,P6
Silica	ug/L	11500	5350	5350	16800	17300	100	109	75-125	3	20	N2
Sodium	ug/L	89600	5000	5000	91700	94500	42	97	75-125	3	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361864 3361865

Parameter	Units	50344232001 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	2500	2500	2600	2490	103	98	75-125	4	20	
Magnesium	ug/L	7620	5000	5000	13000	12600	108	100	75-125	3	20	
Potassium	ug/L	220000	5000	5000	233000	231000	254	204	75-125	1	20	E,P6
Silica	ug/L	10400	5350	5350	16800	16300	119	110	75-125	3	20	N2
Sodium	ug/L	83500	5000	5000	91500	90700	160	145	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732528
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3361842 Matrix: Water
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/12/23 12:13	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/12/23 12:13	
Magnesium, Dissolved	ug/L	ND	1000	71.8	05/12/23 12:13	
Potassium, Dissolved	ug/L	ND	1000	281	05/12/23 12:13	

LABORATORY CONTROL SAMPLE: 3361843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10800	108	80-120	
Lithium, Dissolved	ug/L	1000	1080	108	80-120	
Magnesium, Dissolved	ug/L	10000	10800	108	80-120	
Potassium, Dissolved	ug/L	10000	10800	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361844 3361845

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6180	2500	2500	8580	8800	96	105	75-125	2	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1020	1030	101	103	75-125	1	20	
Magnesium, Dissolved	ug/L	30800	5000	5000	34800	35800	82	100	75-125	3	20	
Potassium, Dissolved	ug/L	1540	5000	5000	6600	6710	101	103	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361846 3361847

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2540	2520	101	100	75-125	1	20	
Lithium, Dissolved	ug/L	1500	1000	1000	2520	2540	103	104	75-125	0	20	
Magnesium, Dissolved	ug/L	8000	5000	5000	12700	12800	94	95	75-125	1	20	
Potassium, Dissolved	ug/L	210000	5000	5000	213000	215000	65	95	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361848 3361849

Parameter	Units	50344001011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2560	2550	102	102	75-125	0	20	
Lithium, Dissolved	ug/L	ND	1000	1000	999	1000	99	99	75-125	0	20	
Magnesium, Dissolved	ug/L	19700	5000	5000	24400	24300	94	92	75-125	0	20	
Potassium, Dissolved	ug/L	2250	5000	5000	7040	7020	96	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732365
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3360994 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	05/11/23 17:08	
Manganese	ug/L	ND	1.0	0.065	05/11/23 17:08	

LABORATORY CONTROL SAMPLE: 3360995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	392	98	80-120	
Manganese	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360996 3360997

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	189	400	400	607	608	105	105	75-125	0	20	
Manganese	ug/L	2760	40	40	2770	2760	9	-15	75-125	0	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360998 3360999

Parameter	Units	50344229002 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	400	400	395	391	97	96	75-125	1	20	
Manganese	ug/L	5090	40	40	5020	4960	-173	-327	75-125	1	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361000 3361001

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	43.1	400	400	424	432	95	97	75-125	2	20	
Manganese	ug/L	2560	40	40	2560	2610	-12	118	75-125	2	20	E,P6

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732355
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3360971 Matrix: Water
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	4.4	05/10/23 03:25	
Boron, Dissolved	ug/L	ND	20.0	3.0	05/10/23 03:25	N2
Manganese, Dissolved	ug/L	ND	1.0	0.16	05/10/23 03:25	
Molybdenum, Dissolved	ug/L	ND	10.0	0.031	05/10/23 03:25	

LABORATORY CONTROL SAMPLE: 3360972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	388	97	80-120	
Boron, Dissolved	ug/L	40	42.5	106	80-120	N2
Manganese, Dissolved	ug/L	40	41.8	104	80-120	
Molybdenum, Dissolved	ug/L	40	39.3	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360973 3360974

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	396	397	98	98	75-125	0	20	
Boron, Dissolved	ug/L	527	40	40	572	574	112	120	75-125	1	20	N2
Manganese, Dissolved	ug/L	2630	40	40	2630	2590	22	-78	75-125	2	20	P6
Molybdenum, Dissolved	ug/L	ND	40	40	42.5	42.5	104	104	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360975 3360976

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	405	396	100	98	75-125	2	20	
Boron, Dissolved	ug/L	1150	40	40	1160	1120	27	-58	75-125	3	20	N2,P6
Manganese, Dissolved	ug/L	4900	40	40	4840	4900	-150	-12	75-125	1	20	P6
Molybdenum, Dissolved	ug/L	284	40	40	321	321	93	93	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732342
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3360944 Matrix: Water
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/09/23 02:10	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 02:10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 02:10	

LABORATORY CONTROL SAMPLE: 3360945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.7	103	90-110	

SAMPLE DUPLICATE: 3360946

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	423	429	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	423	429	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3360947

Parameter	Units	50344052001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	374	381	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	374	381	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732343
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228002

METHOD BLANK: 3360949 Matrix: Water
Associated Lab Samples: 50344228002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/09/23 04:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 04:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 04:02	

LABORATORY CONTROL SAMPLE: 3360950

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: 3360951

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	75.9	76.9	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	75.9	76.9	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3360952

Parameter	Units	50344022001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	454	438	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	454	438	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732851
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3363581 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:26	

LABORATORY CONTROL SAMPLE: 3363582

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

SAMPLE DUPLICATE: 3363583

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	717	707	1	10	

SAMPLE DUPLICATE: 3363584

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2270	2290	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732797
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: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

SAMPLE DUPLICATE: 3363115

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3363116

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 3363117

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

SAMPLE DUPLICATE: 3363118

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732705
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: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3362671 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/10/23 14:57	

LABORATORY CONTROL SAMPLE: 3362672

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362673 3362674

Parameter	Units	50344191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.50	98	100	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362675 3362676

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.47	92	94	90-110	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732725
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3362759 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/10/23 15:07	H3,N2

LABORATORY CONTROL SAMPLE: 3362760

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362761 3362762

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	1.1	5	5	6.3	6.3	104	105	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362763 3362764

Parameter	Units	50344229002 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	104	105	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732337
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: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3360896 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/08/23 21:56	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/08/23 21:56	

LABORATORY CONTROL SAMPLE: 3360897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360898 3360899

Parameter	Units	50344228001 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	0.84	0.85	83	83	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	97	97	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360900 3360901

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.1	102	103	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	105	105	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 733616
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: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3366894 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/17/23 14:24	

LABORATORY CONTROL SAMPLE: 3366895

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366896 3366897

Parameter	Units	50344228001 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	0.67			0.68	0.78				13		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366898 3366899

Parameter	Units	50344229002 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	0.28			1.8	1.8				2		

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732685
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3362582 Matrix: Water
Associated Lab Samples: 50344228001, 50344228002, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/10/23 22:11	

LABORATORY CONTROL SAMPLE: 3362583

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: 3362584 3362585

Parameter	Units	50344191001 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	11.1	98	101	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362588 3362589

Parameter	Units	50344228001 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	11.5	100	101	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362590 3362591

Parameter	Units	50344229002 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	11.8	11.8	104	104	80-120	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R3
Pace Project No.: 50344228

QC Batch: 732677
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

METHOD BLANK: 3362546 Matrix: Water
Associated Lab Samples: 50344228001, 50344228003, 50344228004, 50344228005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	05/11/23 15:36	

LABORATORY CONTROL SAMPLE: 3362547

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362548 3362549

Parameter	Units	50344191001 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	11.7	11.7	105	105	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362550 3362551

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.0	10	10	12.2	11.9	102	99	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362552 3362553

Parameter	Units	50344229002 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	12.0	12.5	105	110	80-120	4	20	

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QUALIFIERS

Project: Petersburg P3R3
Pace Project No.: 50344228

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

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.
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 P3R3
Pace Project No.: 50344228

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344228001	**MW-14**	EPA 9056	732630		
50344228002	**Field Blank 2**	EPA 9056	732630		
50344228003	**Dup 2**	EPA 9056	732630		
50344228004	**MW-15**	EPA 9056	732630		
50344228005	**MW-16**	EPA 9056	732630		
50344228001	**MW-14**	EPA 3010	732532	EPA 6010	733194
50344228002	**Field Blank 2**	EPA 3010	732532	EPA 6010	733194
50344228003	**Dup 2**	EPA 3010	732532	EPA 6010	733194
50344228004	**MW-15**	EPA 3010	732532	EPA 6010	733194
50344228005	**MW-16**	EPA 3010	732532	EPA 6010	733194
50344228001	**MW-14**	EPA 3010	732528	EPA 6010	733203
50344228003	**Dup 2**	EPA 3010	732528	EPA 6010	733203
50344228004	**MW-15**	EPA 3010	732528	EPA 6010	733203
50344228005	**MW-16**	EPA 3010	732528	EPA 6010	733203
50344228001	**MW-14**	EPA 200.2	732365	EPA 6020	732733
50344228002	**Field Blank 2**	EPA 200.2	732365	EPA 6020	732733
50344228003	**Dup 2**	EPA 200.2	732365	EPA 6020	732733
50344228004	**MW-15**	EPA 200.2	732365	EPA 6020	732733
50344228005	**MW-16**	EPA 200.2	732365	EPA 6020	732733
50344228001	**MW-14**	EPA 200.2	732355	EPA 6020	732468
50344228003	**Dup 2**	EPA 200.2	732355	EPA 6020	732468
50344228004	**MW-15**	EPA 200.2	732355	EPA 6020	732468
50344228005	**MW-16**	EPA 200.2	732355	EPA 6020	732468
50344228001	**MW-14**	SM 2320B	732342		
50344228002	**Field Blank 2**	SM 2320B	732343		
50344228003	**Dup 2**	SM 2320B	732342		
50344228004	**MW-15**	SM 2320B	732342		
50344228005	**MW-16**	SM 2320B	732342		
50344228001	**MW-14**	SM 2540C	732851		
50344228002	**Field Blank 2**	SM 2540C	732851		
50344228003	**Dup 2**	SM 2540C	732851		
50344228004	**MW-15**	SM 2540C	732851		
50344228005	**MW-16**	SM 2540C	732851		
50344228001	**MW-14**	SM 4500-H+B	732797		
50344228002	**Field Blank 2**	SM 4500-H+B	732797		
50344228003	**Dup 2**	SM 4500-H+B	732797		
50344228004	**MW-15**	SM 4500-H+B	732797		
50344228005	**MW-16**	SM 4500-H+B	732797		
50344228001	**MW-14**	SM 4500-S2-D	732705		
50344228002	**Field Blank 2**	SM 4500-S2-D	732705		
50344228003	**Dup 2**	SM 4500-S2-D	732705		
50344228004	**MW-15**	SM 4500-S2-D	732705		
50344228005	**MW-16**	SM 4500-S2-D	732705		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R3
Pace Project No.: 50344228

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344228001	**MW-14**	HACH 8146	732725		
50344228002	**Field Blank 2**	HACH 8146	732725		
50344228003	**Dup 2**	HACH 8146	732725		
50344228004	**MW-15**	HACH 8146	732725		
50344228005	**MW-16**	HACH 8146	732725		
50344228001	**MW-14**	EPA 353.2	732337		
50344228002	**Field Blank 2**	EPA 353.2	732337		
50344228003	**Dup 2**	EPA 353.2	732337		
50344228004	**MW-15**	EPA 353.2	732337		
50344228005	**MW-16**	EPA 353.2	732337		
50344228001	**MW-14**	EPA 365.1	733616	EPA 365.1	733847
50344228002	**Field Blank 2**	EPA 365.1	733616	EPA 365.1	733847
50344228003	**Dup 2**	EPA 365.1	733616	EPA 365.1	733847
50344228004	**MW-15**	EPA 365.1	733616	EPA 365.1	733847
50344228005	**MW-16**	EPA 365.1	733616	EPA 365.1	733847
50344228001	**MW-14**	SM 5310C	732685		
50344228002	**Field Blank 2**	SM 5310C	732685		
50344228003	**Dup 2**	SM 5310C	732685		
50344228004	**MW-15**	SM 5310C	732685		
50344228005	**MW-16**	SM 5310C	732685		
50344228001	**MW-14**	SM 5310C	732677		
50344228003	**Dup 2**	SM 5310C	732677		
50344228004	**MW-15**	SM 5310C	732677		
50344228005	**MW-16**	SM 5310C	732677		

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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50344228

50344228

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 P3R3	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/44

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Y/N				Y			Y				
1	MW-14			5/7/23	0750				9	X	X	X		X					X	X	X	X		X	X	X		001
2	Field Blank 2			5/7/23	0750				7	X	X	X		X					X	X	X	X		X	X	X		002
3	MS 2			5/7/23	0750				9	X	X	X		X					X	X	X	X		X	X	X		
4	MSD 2			5/7/23	0750				9	X	X	X		X					X	X	X	X		X	X	X		
5	Dup 2			5/7/23	0750				9	X	X	X		X					X	X	X	X		X	X	X		003
6	MW-15			5/7/23	1200				9	X	X	X		X					X	X	X	X		X	X	X		004
7	MW-16			5/7/23	1340				9	X	X	X		X					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 Fe, Mn, Mg, Na, K, sila) 6020 - Al	Josh O'Brian	5/8/23	7:45	Jay Williams	5/8	7:45	
** Dissolved FF 6010 (Fe, Mn, Mg, K, Li)	Jay Williams	5-8-23	10:00		5/8	1000	SEE ON
Diss 6020 - B, Al, Mo							
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:	Josh O'Brian			Y	Y	Y
SIGNATURE of SAMPLER:		DATE Signed: 5-7-23				

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 05/08/23 1520 SMK

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

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

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

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

4. **Cooler Temperature(s):** 1.3/1.3 | 0.9/0.9 | 1.1/1.1 | 0.8/0.8

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, ~~LLHg, O&G,~~ RAD CHEM, and any container with a septum cap or preserved with HCl.**			
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO3	✓		**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: 16:05			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: 1.2/1.2 1.3/1.3 1.6/1.6 1.1/1.1 1.1/1.1 -SMK

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N (RC 5-8-23)	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit		Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/ZnAc >9
1												3	3			~~6~~	3	6	3	3	3		3					SW	✓	✓		
2												1				~~8~~	1	2	1		1		1					T	✓	✓		
3																																	
4																																	
5												1	1			~~4~~	1	2	1	1	1		1					SW	✓	✓		
6												1	1			~~4~~	1	1	1	1	1		1					T	1	1		
7												1	1			~~4~~	1	1	1	1	1		1					T	1	1		
8																																	
9																																	
10																																	
11																																	
12																																	

ontainer Codes

Glass

G9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
G9P	40mL TSP amber vial	BG1U	1L unpreserved glass
G9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
G9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
G9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
G9H	40mL HCl clear vial	AG1H	1L HCl amber glass
G9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
G9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
GKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
GFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
FU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
G3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
G3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered
G1H	1L HCl clear glass	AG3U	250mL unpres amber glass
G1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 17, 2023

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

RE: Project: Petersburg P3R1
Pace Project No.: 50344229

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P3R1
Pace Project No.: 50344229

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P3R1
Pace Project No.: 50344229

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344229001	**Field Blank 1**	Water	05/07/23 15:35	05/08/23 10:00
50344229002	**MW-3**	Water	05/07/23 15:35	05/08/23 10:00
50344229003	**DUP-1**	Water	05/07/23 15:35	05/08/23 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50344229

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344229001	**Field Blank 1**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6020	CAW	2	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344229002	**MW-3**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344229003	**DUP-1**	EPA 9056	RMR	1	PASI-I
		EPA 6010	ELK	5	PASI-I
		EPA 6010	MTM	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50344229

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P3R1
Pace Project No.: 50344229

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344229001	**Field Blank 1**					
EPA 6020	Aluminum	10.2	ug/L	10.0	05/11/23 23:10	C0
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/10/23 18:57	H3
50344229002	**MW-3**					
EPA 9056	Bromide	0.55	mg/L	0.050	05/13/23 18:33	
EPA 9056	Chloride	50.2	mg/L	2.5	05/13/23 19:59	
EPA 9056	Sulfate	1410	mg/L	25.0	05/15/23 10:50	
EPA 6010	Magnesium	7550	ug/L	1000	05/12/23 11:36	
EPA 6010	Potassium	223000	ug/L	5000	05/12/23 13:22	
EPA 6010	Silica	10200	ug/L	450	05/12/23 11:36	N2
EPA 6010	Sodium	82600	ug/L	1000	05/12/23 11:36	
EPA 6010	Lithium, Dissolved	1500	ug/L	20.0	05/12/23 12:37	
EPA 6010	Magnesium, Dissolved	8000	ug/L	1000	05/12/23 12:37	
EPA 6010	Potassium, Dissolved	210000	ug/L	3000	05/12/23 13:54	
EPA 6020	Manganese	5090	ug/L	50.0	05/12/23 20:24	
EPA 6020	Boron, Dissolved	1150	ug/L	1000	05/10/23 05:29	N2
EPA 6020	Manganese, Dissolved	4900	ug/L	50.0	05/10/23 05:29	
EPA 6020	Molybdenum, Dissolved	284	ug/L	20.0	05/11/23 07:56	
SM 2320B	Alkalinity, Total as CaCO3	75.9	mg/L	10.0	05/09/23 04:02	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	75.9	mg/L	10.0	05/09/23 04:02	
SM 2540C	Total Dissolved Solids	2270	mg/L	20.0	05/11/23 08:30	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	05/10/23 19:00	H3
EPA 365.1	Phosphate as P04	0.28	mg/L	0.15	05/17/23 14:40	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/11/23 12:34	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	05/11/23 21:09	
50344229003	**DUP-1**					
EPA 9056	Bromide	0.54	mg/L	0.050	05/13/23 20:18	
EPA 6010	Magnesium	7700	ug/L	1000	05/12/23 11:43	
EPA 6010	Potassium	223000	ug/L	5000	05/12/23 13:57	
EPA 6010	Silica	10400	ug/L	450	05/12/23 11:43	N2
EPA 6010	Sodium	83800	ug/L	1000	05/12/23 11:43	
EPA 6010	Lithium, Dissolved	1540	ug/L	20.0	05/12/23 12:44	
EPA 6010	Magnesium, Dissolved	8020	ug/L	1000	05/12/23 12:44	
EPA 6010	Potassium, Dissolved	216000	ug/L	3000	05/12/23 14:00	
EPA 6020	Manganese	4940	ug/L	50.0	05/12/23 20:35	
EPA 6020	Boron, Dissolved	1120	ug/L	1000	05/10/23 05:47	N2
EPA 6020	Manganese, Dissolved	4770	ug/L	50.0	05/10/23 05:47	
EPA 6020	Molybdenum, Dissolved	281	ug/L	20.0	05/11/23 08:06	
SM 2320B	Alkalinity, Total as CaCO3	76.3	mg/L	10.0	05/09/23 04:02	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	76.3	mg/L	10.0	05/09/23 04:02	
SM 2540C	Total Dissolved Solids	2290	mg/L	20.0	05/11/23 08:31	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/10/23 19:02	H3
EPA 365.1	Phosphate as P04	0.23	mg/L	0.15	05/17/23 14:43	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	05/11/23 13:07	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	05/11/23 21:42	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: Field Blank 1 **Lab ID: 50344229001** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/13/23 17:48	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:33	7439-89-6	
Magnesium	ND	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:33	7439-95-4	
Potassium	ND	ug/L	1000	200	1	05/10/23 17:09	05/12/23 11:33	7440-09-7	
Silica	ND	ug/L	450		1	05/10/23 17:09	05/12/23 11:33	7631-86-9	N2
Sodium	ND	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:33	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**10.2**	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 23:10	7429-90-5	C0
Manganese	ND	ug/L	1.0	0.065	1	05/10/23 07:00	05/11/23 23:10	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		05/11/23 08:30		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	0.10	1		05/10/23 18:57		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:10	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	0.011	1		05/08/23 22:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:13	14797-65-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: Field Blank 1 **Lab ID: 50344229001** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.15	1	05/16/23 06:00	05/17/23 14:39		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/11/23 12:21	7440-44-0	

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Indianapolis, IN 46268
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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: MW-3 **Lab ID: 50344229002** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.55**	mg/L	0.050	0.0090	1		05/13/23 18:33	24959-67-9	
Chloride	**50.2**	mg/L	2.5	0.67	10		05/13/23 19:59	16887-00-6	
Sulfate	**1410**	mg/L	25.0	8.5	100		05/15/23 10:50	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:36	7439-89-6	
Magnesium	**7550**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:36	7439-95-4	
Potassium	**223000**	ug/L	5000	1000	5	05/10/23 17:09	05/12/23 13:22	7440-09-7	
Silica	**10200**	ug/L	450		1	05/10/23 17:09	05/12/23 11:36	7631-86-9	N2
Sodium	**82600**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:36	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:37	7439-89-6	
Lithium, Dissolved	**1500**	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:37	7439-93-2	
Magnesium, Dissolved	**8000**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:37	7439-95-4	
Potassium, Dissolved	**210000**	ug/L	3000	843	3	05/11/23 07:44	05/12/23 13:54	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 23:14	7429-90-5	
Manganese	**5090**	ug/L	50.0	3.2	50	05/10/23 07:00	05/12/23 20:24	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 08:49	7429-90-5	
Boron, Dissolved	**1150**	ug/L	1000	148	50	05/09/23 07:30	05/10/23 05:29	7440-42-8	N2
Manganese, Dissolved	**4900**	ug/L	50.0	8.0	50	05/09/23 07:30	05/10/23 05:29	7439-96-5	
Molybdenum, Dissolved	**284**	ug/L	20.0	0.062	2	05/09/23 07:30	05/11/23 07:56	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**75.9**	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Bicarbonate (CaCO3)	**75.9**	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2270**	mg/L	20.0	20.0	1		05/11/23 08:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		05/10/23 19:00		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: MW-3 **Lab ID: 50344229002** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/10/23 15:20	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:10	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	0.011	1		05/08/23 22:19	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:19	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.28**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:40		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.4**	mg/L	1.0	0.24	1		05/11/23 12:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/11/23 21:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: DUP-1 **Lab ID: 50344229003** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.54**	mg/L	0.050	0.0090	1		05/13/23 20:18	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/10/23 17:09	05/12/23 11:43	7439-89-6	
Magnesium	**7700**	ug/L	1000	43.0	1	05/10/23 17:09	05/12/23 11:43	7439-95-4	
Potassium	**223000**	ug/L	5000	1000	5	05/10/23 17:09	05/12/23 13:57	7440-09-7	
Silica	**10400**	ug/L	450		1	05/10/23 17:09	05/12/23 11:43	7631-86-9	N2
Sodium	**83800**	ug/L	1000	284	1	05/10/23 17:09	05/12/23 11:43	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/11/23 07:44	05/12/23 12:44	7439-89-6	
Lithium, Dissolved	**1540**	ug/L	20.0	6.2	1	05/11/23 07:44	05/12/23 12:44	7439-93-2	
Magnesium, Dissolved	**8020**	ug/L	1000	71.8	1	05/11/23 07:44	05/12/23 12:44	7439-95-4	
Potassium, Dissolved	**216000**	ug/L	3000	843	3	05/11/23 07:44	05/12/23 14:00	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	05/10/23 07:00	05/11/23 23:24	7429-90-5	
Manganese	**4940**	ug/L	50.0	3.2	50	05/10/23 07:00	05/12/23 20:35	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/09/23 07:30	05/11/23 09:06	7429-90-5	
Boron, Dissolved	**1120**	ug/L	1000	148	50	05/09/23 07:30	05/10/23 05:47	7440-42-8	N2
Manganese, Dissolved	**4770**	ug/L	50.0	8.0	50	05/09/23 07:30	05/10/23 05:47	7439-96-5	
Molybdenum, Dissolved	**281**	ug/L	20.0	0.062	2	05/09/23 07:30	05/11/23 08:06	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**76.3**	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Bicarbonate (CaCO3)	**76.3**	mg/L	10.0	10.0	1		05/09/23 04:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/09/23 04:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2290**	mg/L	20.0	20.0	1		05/11/23 08:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/10/23 19:02		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344229

Sample: DUP-1 **Lab ID: 50344229003** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/10/23 14:57	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:11	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/08/23 22:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/08/23 22:24	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.23**	mg/L	0.15	0.15	1	05/16/23 06:00	05/17/23 14:43		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/11/23 13:07	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.24	1		05/11/23 21:42		

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732631
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3362315 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/13/23 13:39	
Chloride	mg/L	ND	0.25	0.067	05/13/23 13:39	
Sulfate	mg/L	ND	0.25	0.085	05/13/23 13:39	

LABORATORY CONTROL SAMPLE: 3362316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	1.0	103	80-120	
Chloride	mg/L	2.5	2.4	96	80-120	
Sulfate	mg/L	5	5.4	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362317 3362318

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.55	1	1	1.6	1.6	103	101	80-120	1	15	
Chloride	mg/L	50.2	25	25	77.8	76.9	110	107	80-120	1	15	
Sulfate	mg/L	1410	500	500	1840	2000	86	117	80-120	8	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362319 3362320

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	1	1	1.0	1.1	100	103	80-120	3	15	
Chloride	mg/L	13.6	25	25	38.3	37.3	99	95	80-120	3	15	
Sulfate	mg/L	218	50	50	271	277	106	117	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732532
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3361854 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	100	48.8	05/12/23 11:02	
Magnesium	ug/L	ND	1000	43.0	05/12/23 11:02	
Potassium	ug/L	ND	1000	200	05/12/23 11:02	
Silica	ug/L	ND	450		05/12/23 11:02	N2
Sodium	ug/L	ND	1000	284	05/12/23 11:02	

LABORATORY CONTROL SAMPLE: 3361855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2740	110	80-120	
Magnesium	ug/L	5000	5420	108	80-120	
Potassium	ug/L	5000	5120	102	80-120	
Silica	ug/L	5350	5680	106	80-120	N2
Sodium	ug/L	5000	5230	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361856 3361857

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6710	2500	2500	9120	9630	97	117	75-125	5	20	
Magnesium	ug/L	31300	5000	5000	36200	38000	99	134	75-125	5	20	P6
Potassium	ug/L	1470	5000	5000	6740	6890	105	108	75-125	2	20	
Silica	ug/L	16500	5350	5350	21700	22900	97	120	75-125	5	20	N2
Sodium	ug/L	24200	5000	5000	29500	30800	106	131	75-125	4	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361858 3361859

Parameter	Units	50344229002 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	2500	2500	2490	2420	99	96	75-125	3	20	
Magnesium	ug/L	7550	5000	5000	12600	12400	102	97	75-125	2	20	
Potassium	ug/L	223000	5000	5000	236000	234000	248	203	75-125	1	20	P6
Silica	ug/L	10200	5350	5350	16200	15900	112	106	75-125	2	20	N2
Sodium	ug/L	82600	5000	5000	93500	92800	217	202	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361860 3361861

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6630	2500	2500	9260	9880	105	130	75-125	6	20	M0
Magnesium	ug/L	30000	5000	5000	35600	37600	111	151	75-125	5	20	M0
Potassium	ug/L	1900	5000	5000	6790	7100	98	104	75-125	4	20	
Silica	ug/L	16500	5350	5350	22500	23800	113	137	75-125	6	20	N2
Sodium	ug/L	24700	5000	5000	30100	32000	106	144	75-125	6	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361862 3361863

Parameter	Units	50344231001 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	2500	2500	2450	2550	98	102	75-125	4	20	
Magnesium	ug/L	9840	5000	5000	14400	14700	91	98	75-125	2	20	
Potassium	ug/L	224000	5000	5000	222000	228000	-42	92	75-125	3	20	E,P6
Silica	ug/L	11500	5350	5350	16800	17300	100	109	75-125	3	20	N2
Sodium	ug/L	89600	5000	5000	91700	94500	42	97	75-125	3	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361864 3361865

Parameter	Units	50344232001 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	2500	2500	2600	2490	103	98	75-125	4	20	
Magnesium	ug/L	7620	5000	5000	13000	12600	108	100	75-125	3	20	
Potassium	ug/L	220000	5000	5000	233000	231000	254	204	75-125	1	20	E,P6
Silica	ug/L	10400	5350	5350	16800	16300	119	110	75-125	3	20	N2
Sodium	ug/L	83500	5000	5000	91500	90700	160	145	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732528
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229002, 50344229003

METHOD BLANK: 3361842 Matrix: Water
Associated Lab Samples: 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/12/23 12:13	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/12/23 12:13	
Magnesium, Dissolved	ug/L	ND	1000	71.8	05/12/23 12:13	
Potassium, Dissolved	ug/L	ND	1000	281	05/12/23 12:13	

LABORATORY CONTROL SAMPLE: 3361843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10800	108	80-120	
Lithium, Dissolved	ug/L	1000	1080	108	80-120	
Magnesium, Dissolved	ug/L	10000	10800	108	80-120	
Potassium, Dissolved	ug/L	10000	10800	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361844 3361845

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6180	2500	2500	8580	8800	96	105	75-125	2	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1020	1030	101	103	75-125	1	20	
Magnesium, Dissolved	ug/L	30800	5000	5000	34800	35800	82	100	75-125	3	20	
Potassium, Dissolved	ug/L	1540	5000	5000	6600	6710	101	103	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361846 3361847

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2540	2520	101	100	75-125	1	20	
Lithium, Dissolved	ug/L	1500	1000	1000	2520	2540	103	104	75-125	0	20	
Magnesium, Dissolved	ug/L	8000	5000	5000	12700	12800	94	95	75-125	1	20	
Potassium, Dissolved	ug/L	210000	5000	5000	213000	215000	65	95	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361848 3361849

Parameter	Units	50344001011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2560	2550	102	102	75-125	0	20	
Lithium, Dissolved	ug/L	ND	1000	1000	999	1000	99	99	75-125	0	20	
Magnesium, Dissolved	ug/L	19700	5000	5000	24400	24300	94	92	75-125	0	20	
Potassium, Dissolved	ug/L	2250	5000	5000	7040	7020	96	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732365
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3360994 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	05/11/23 17:08	
Manganese	ug/L	ND	1.0	0.065	05/11/23 17:08	

LABORATORY CONTROL SAMPLE: 3360995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	392	98	80-120	
Manganese	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360996 3360997

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	189	400	400	607	608	105	105	75-125	0	20	
Manganese	ug/L	2760	40	40	2770	2760	9	-15	75-125	0	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360998 3360999

Parameter	Units	50344229002 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	400	400	395	391	97	96	75-125	1	20	
Manganese	ug/L	5090	40	40	5020	4960	-173	-327	75-125	1	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361000 3361001

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	43.1	400	400	424	432	95	97	75-125	2	20	
Manganese	ug/L	2560	40	40	2560	2610	-12	118	75-125	2	20	E,P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732355
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229002, 50344229003

METHOD BLANK: 3360971 Matrix: Water
Associated Lab Samples: 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	4.4	05/10/23 03:25	
Boron, Dissolved	ug/L	ND	20.0	3.0	05/10/23 03:25	N2
Manganese, Dissolved	ug/L	ND	1.0	0.16	05/10/23 03:25	
Molybdenum, Dissolved	ug/L	ND	10.0	0.031	05/10/23 03:25	

LABORATORY CONTROL SAMPLE: 3360972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	388	97	80-120	
Boron, Dissolved	ug/L	40	42.5	106	80-120	N2
Manganese, Dissolved	ug/L	40	41.8	104	80-120	
Molybdenum, Dissolved	ug/L	40	39.3	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360973 3360974

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	396	397	98	98	75-125	0	20	
Boron, Dissolved	ug/L	527	40	40	572	574	112	120	75-125	1	20	N2
Manganese, Dissolved	ug/L	2630	40	40	2630	2590	22	-78	75-125	2	20	P6
Molybdenum, Dissolved	ug/L	ND	40	40	42.5	42.5	104	104	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360975 3360976

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	405	396	100	98	75-125	2	20	
Boron, Dissolved	ug/L	1150	40	40	1160	1120	27	-58	75-125	3	20	N2,P6
Manganese, Dissolved	ug/L	4900	40	40	4840	4900	-150	-12	75-125	1	20	P6
Molybdenum, Dissolved	ug/L	284	40	40	321	321	93	93	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732343
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3360949 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/09/23 04:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 04:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/09/23 04:02	

LABORATORY CONTROL SAMPLE: 3360950

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: 3360951

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	75.9	76.9	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	75.9	76.9	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3360952

Parameter	Units	50344022001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	454	438	4	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	454	438	4	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732851
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3363581 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:26	

LABORATORY CONTROL SAMPLE: 3363582

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

SAMPLE DUPLICATE: 3363583

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	717	707	1	10	

SAMPLE DUPLICATE: 3363584

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2270	2290	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732797
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: 50344229001, 50344229002, 50344229003

SAMPLE DUPLICATE: 3363115

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3363116

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 3363117

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

SAMPLE DUPLICATE: 3363118

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732705
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: 50344229001, 50344229003

METHOD BLANK: 3362671 Matrix: Water
Associated Lab Samples: 50344229001, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/10/23 14:57	

LABORATORY CONTROL SAMPLE: 3362672

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362673 3362674

Parameter	Units	50344191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.50	98	100	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362675 3362676

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.47	92	94	90-110	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732710
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: 50344229002

METHOD BLANK: 3362687 Matrix: Water
Associated Lab Samples: 50344229002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/10/23 15:20	

LABORATORY CONTROL SAMPLE: 3362688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362689 3362690

Parameter	Units	50344229002 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	0.30	0.31	59	61	90-110	3	20	M3

MATRIX SPIKE SAMPLE: 3362691

Parameter	Units	50344269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.49	96	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732725
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3362759 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/10/23 15:07	H3,N2

LABORATORY CONTROL SAMPLE: 3362760

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362761 3362762

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	1.1	5	5	6.3	6.3	104	105	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362763 3362764

Parameter	Units	50344229002 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	104	105	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732337
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: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3360896 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/08/23 21:56	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/08/23 21:56	

LABORATORY CONTROL SAMPLE: 3360897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360898 3360899

Parameter	Units	50344228001 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	0.84	0.85	83	83	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.98	0.98	97	97	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360900 3360901

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	1.1	1.1	102	103	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.1	1.1	105	105	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 733616
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: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3366894 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/17/23 14:24	

LABORATORY CONTROL SAMPLE: 3366895

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366896 3366897

Parameter	Units	50344228001 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	0.67			0.68	0.78				13		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366898 3366899

Parameter	Units	50344229002 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	0.28			1.8	1.8				2		

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732685
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229001, 50344229002, 50344229003

METHOD BLANK: 3362582 Matrix: Water
Associated Lab Samples: 50344229001, 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/10/23 22:11	

LABORATORY CONTROL SAMPLE: 3362583

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: 3362584 3362585

Parameter	Units	50344191001 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	11.1	98	101	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362588 3362589

Parameter	Units	50344228001 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	11.5	100	101	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362590 3362591

Parameter	Units	50344229002 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	11.8	11.8	104	104	80-120	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344229

QC Batch: 732677
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344229002, 50344229003

METHOD BLANK: 3362546 Matrix: Water
Associated Lab Samples: 50344229002, 50344229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	05/11/23 15:36	

LABORATORY CONTROL SAMPLE: 3362547

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362548 3362549

Parameter	Units	50344191001 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	11.7	11.7	105	105	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362550 3362551

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.0	10	10	12.2	11.9	102	99	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362552 3362553

Parameter	Units	50344229002 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	12.0	12.5	105	110	80-120	4	20	

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QUALIFIERS

Project: Petersburg P3R1
Pace Project No.: 50344229

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

C0	Result confirmed by second analysis.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PL	The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R1
Pace Project No.: 50344229

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344229001	**Field Blank 1**	EPA 9056	732631		
50344229002	**MW-3**	EPA 9056	732631		
50344229003	**DUP-1**	EPA 9056	732631		
50344229001	**Field Blank 1**	EPA 3010	732532	EPA 6010	733194
50344229002	**MW-3**	EPA 3010	732532	EPA 6010	733194
50344229003	**DUP-1**	EPA 3010	732532	EPA 6010	733194
50344229002	**MW-3**	EPA 3010	732528	EPA 6010	733203
50344229003	**DUP-1**	EPA 3010	732528	EPA 6010	733203
50344229001	**Field Blank 1**	EPA 200.2	732365	EPA 6020	732733
50344229002	**MW-3**	EPA 200.2	732365	EPA 6020	732733
50344229003	**DUP-1**	EPA 200.2	732365	EPA 6020	732733
50344229002	**MW-3**	EPA 200.2	732355	EPA 6020	732468
50344229003	**DUP-1**	EPA 200.2	732355	EPA 6020	732468
50344229001	**Field Blank 1**	SM 2320B	732343		
50344229002	**MW-3**	SM 2320B	732343		
50344229003	**DUP-1**	SM 2320B	732343		
50344229001	**Field Blank 1**	SM 2540C	732851		
50344229002	**MW-3**	SM 2540C	732851		
50344229003	**DUP-1**	SM 2540C	732851		
50344229001	**Field Blank 1**	SM 4500-H+B	732797		
50344229002	**MW-3**	SM 4500-H+B	732797		
50344229003	**DUP-1**	SM 4500-H+B	732797		
50344229001	**Field Blank 1**	SM 4500-S2-D	732705		
50344229002	**MW-3**	SM 4500-S2-D	732710		
50344229003	**DUP-1**	SM 4500-S2-D	732705		
50344229001	**Field Blank 1**	HACH 8146	732725		
50344229002	**MW-3**	HACH 8146	732725		
50344229003	**DUP-1**	HACH 8146	732725		
50344229001	**Field Blank 1**	EPA 353.2	732337		
50344229002	**MW-3**	EPA 353.2	732337		
50344229003	**DUP-1**	EPA 353.2	732337		
50344229001	**Field Blank 1**	EPA 365.1	733616	EPA 365.1	733847
50344229002	**MW-3**	EPA 365.1	733616	EPA 365.1	733847
50344229003	**DUP-1**	EPA 365.1	733616	EPA 365.1	733847
50344229001	**Field Blank 1**	SM 5310C	732685		
50344229002	**MW-3**	SM 5310C	732685		
50344229003	**DUP-1**	SM 5310C	732685		
50344229002	**MW-3**	SM 5310C	732677		
50344229003	**DUP-1**	SM 5310C	732677		

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Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Do

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

WO# : 50344229

50344229

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 P3R1	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/44

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Residual Chlorine (Y/N)
	Requested Analysis Filtered (Y/N)																	Y				Y					
1	Field Blank - 1			5/2/23	1535				7	X	X	X		X					X	X	X	X	X	X	X	X	
2	MS - 1			5/7/23	1535				9	X	X	X		X					X	X	X	X	X	X	X	X	
3	MSD - 1			5/7/23	1535				9	X	X	X		X					X	X	X	X	X	X	X	X	
4	MW-3			5/7/23	1535				9	X	X	X		X					X	X	X	X	X	X	X	X	
5	DUP-1			5/7/23	1535				9	X	X	X		X					X	X	X	X	X	X	X	X	
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 Fe, Mn, Mg, Na, K, sila) 6020 - Al		5/8/23	7:45		5/8	7:45	
** Dissolved FF 6010 (Fe, Mn, Mg, K, Li)		5-8-23	1000		5/8	1000	
Diss 6020 - B, Al, Mo							
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:	Josh O'Brien					
SIGNATURE of SAMPLER:		DATE Signed: 5-7-23				

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 05/08/23 1520 SMK

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

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

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

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

4. **Cooler Temperature(s):** 1.3/1.3 | 0.9/0.9 | 1.1/1.1 | 0.8/0.8

(Initial/Corrected) **RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)**

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

6. **Ice Type:** ☐ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, ~~LLHg, O&G,~~ RAD CHEM, and ~~any container with a septum cap or preserved with HCl.~~**			
Short Hold Time Analysis (48 hours or less)? Analysis: NO3	✓		**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: 16:15			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: 1.2/1.2 1.3/1.3 1.6/1.6 1.1/1.1 1.1/1.1 -SMK

1 of the BP3S ran a pH of 7 for MW-3-SL

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) SBS DI R	VIALS						AMBER GLASS							PLASTIC									OTHER				Matrix	Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
			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	CG3F	Syringe Kit			HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1													1				2	1	2	1		1	1	1					SL	✓	✓		✓
2																																	
3																																	
4													3	3			6	3	6	3	3	3	3	3					WP	✓	✓		
5													1	1			2	1	2	1	1	1	1	1					SL	✓	✓		✓
6																																	
7																	Syr																
8																	S/S																
9																																	
10																																	
11																																	
12																																	

ontainer Codes

Glass

G9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
G9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
G9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
G9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
G9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
G9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
G9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
G9U	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
GKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
GFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
FU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
G3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
G3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P2R3
Pace Project No.: 50344230

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R3
Pace Project No.: 50344230

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344230001	**MW-14**	Water	05/07/23 07:50	05/08/23 10:00
50344230002	**MW-14 MS**	Water	05/07/23 07:50	05/08/23 10:00
50344230003	**MW-14 MSD**	Water	05/07/23 07:50	05/08/23 10:00
50344230004	**Field Blank 2**	Water	05/07/23 07:50	05/08/23 10:00
50344230005	**DUP 2**	Water	05/07/23 07:50	05/08/23 10:00
50344230006	**MW-15**	Water	05/07/23 12:00	05/08/23 10:00
50344230007	**MW-16**	Water	05/07/23 07:50	05/08/23 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344230001	**MW-14**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344230002	**MW-14 MS**	EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
50344230003	**MW-14 MSD**	EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
50344230004	**Field Blank 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344230005	**DUP 2**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344230006	**MW-15**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344230007	**MW-16**	EPA 9056	RMR	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I

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

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

SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344230001	**MW-14**					
EPA 9056	Chloride	13.6	mg/L	2.5	05/13/23 20:55	
EPA 9056	Sulfate	218	mg/L	2.5	05/13/23 20:55	
EPA 6010	Calcium	185000	ug/L	1000	05/12/23 11:45	
EPA 6020	Arsenic	3.2	ug/L	1.0	05/11/23 21:50	
EPA 6020	Barium	69.0	ug/L	1.0	05/11/23 21:50	
EPA 6020	Boron	519	ug/L	50.0	05/11/23 17:15	N2
EPA 6020	Cobalt	1.5	ug/L	1.0	05/11/23 21:50	
EPA 903.1	Radium-226	0.263 ± 0.274 (0.408) C:NA T:92%	pCi/L		06/13/23 14:28	
EPA 904.0	Radium-228	0.490 ± 0.320 (0.598) C:80% T:92%	pCi/L		05/31/23 15:17	
Total Radium Calculation	Total Radium	0.753 ± 0.594 (1.01)	pCi/L		06/13/23 15:31	
SM 2540C	Total Dissolved Solids	699	mg/L	10.0	05/11/23 08:44	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/10/23 19:03	H3
50344230002	**MW-14 MS**					
EPA 903.1	Radium-226	70.80 %REC ± NA (NA) C:NA T:NA	pCi/L		06/13/23 14:28	1d
EPA 904.0	Radium-228	67.93 %REC ± NA (NA) C:NA T:NA	pCi/L		05/31/23 15:17	
50344230003	**MW-14 MSD**					
EPA 903.1	Radium-226	94.62 %REC 28.80RPD ± NA (NA) C:NA T:NA	pCi/L		06/13/23 14:47	
EPA 904.0	Radium-228	67.43 %REC 0.74RPD ± NA (NA) C:NA T:NA	pCi/L		05/31/23 15:18	
50344230004	**Field Blank 2**					
EPA 6020	Barium	6.5	ug/L	1.0	05/11/23 17:32	C0
EPA 903.1	Radium-226	-0.0443 ± 0.260 (0.580) C:NA T:92%	pCi/L		06/13/23 14:47	

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344230004	**Field Blank 2**					
EPA 904.0	Radium-228	0.191 ± 0.280 (0.602) C:83% T:92%	pCi/L		05/31/23 15:18	
Total Radium Calculation	Total Radium	0.191 ± 0.540 (1.18)	pCi/L		06/13/23 15:31	
SM 4500-H+B	pH at 25 Degrees C	8.0	Std. Units	0.10	05/10/23 19:06	H3
50344230005	**DUP 2**					
EPA 9056	Chloride	13.3	mg/L	2.5	05/13/23 21:52	
EPA 9056	Sulfate	219	mg/L	2.5	05/13/23 21:52	
EPA 6010	Calcium	185000	ug/L	1000	05/12/23 11:59	
EPA 6020	Arsenic	3.5	ug/L	1.0	05/11/23 22:00	
EPA 6020	Barium	69.7	ug/L	1.0	05/11/23 22:00	
EPA 6020	Boron	531	ug/L	50.0	05/11/23 17:45	N2
EPA 6020	Cobalt	1.7	ug/L	1.0	05/11/23 22:00	
EPA 903.1	Radium-226	0.000 ± 0.267 (0.564) C:NA T:94%	pCi/L		06/13/23 14:47	
EPA 904.0	Radium-228	0.668 ± 0.324 (0.533) C:79% T:94%	pCi/L		05/31/23 15:18	
Total Radium Calculation	Total Radium	0.668 ± 0.591 (1.10)	pCi/L		06/13/23 15:31	
SM 2540C	Total Dissolved Solids	715	mg/L	10.0	05/11/23 08:31	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/10/23 19:07	H3
50344230006	**MW-15**					
EPA 9056	Chloride	71.4	mg/L	2.5	05/13/23 22:49	
EPA 9056	Fluoride	0.11	mg/L	0.10	05/13/23 22:30	
EPA 9056	Sulfate	719	mg/L	25.0	05/13/23 23:45	
EPA 6010	Calcium	252000	ug/L	2000	05/12/23 12:51	
EPA 6010	Lithium	817	ug/L	20.0	05/12/23 12:01	
EPA 6020	Barium	91.7	ug/L	1.0	05/11/23 22:10	
EPA 6020	Boron	1280	ug/L	100	05/11/23 17:39	N2
EPA 6020	Molybdenum	104	ug/L	10.0	05/11/23 22:10	
EPA 903.1	Radium-226	0.340 ± 0.355 (0.557) C:NA T:92%	pCi/L		06/13/23 14:47	
EPA 904.0	Radium-228	0.644 ± 0.366 (0.662) C:79% T:92%	pCi/L		05/31/23 15:18	

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 P2R3
Pace Project No.: 50344230

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344230006	**MW-15**					
Total Radium Calculation	Total Radium	0.984 ± 0.721 (1.22)	pCi/L		06/13/23 15:31	
SM 2540C	Total Dissolved Solids	1280	mg/L	20.0	05/11/23 08:32	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	05/10/23 19:07	H3
50344230007	**MW-16**					
EPA 9056	Chloride	51.8	mg/L	2.5	05/14/23 03:32	
EPA 9056	Fluoride	0.10	mg/L	0.10	05/14/23 03:13	
EPA 9056	Sulfate	1410	mg/L	25.0	05/14/23 03:51	
EPA 6010	Calcium	513000	ug/L	5000	05/12/23 12:54	
EPA 6010	Lithium	1300	ug/L	20.0	05/12/23 12:04	
EPA 6020	Arsenic	6.9	ug/L	1.0	05/11/23 22:16	
EPA 6020	Barium	64.6	ug/L	1.0	05/11/23 22:16	
EPA 6020	Boron	3250	ug/L	500	05/11/23 17:42	N2
EPA 6020	Molybdenum	355	ug/L	50.0	05/11/23 22:13	
EPA 903.1	Radium-226	0.553 ± 0.447 (0.650) C:NA T:91%	pCi/L		06/13/23 14:47	
EPA 904.0	Radium-228	0.936 ± 0.420 (0.690) C:76% T:91%	pCi/L		05/31/23 15:18	
Total Radium Calculation	Total Radium	1.49 ± 0.867 (1.34)	pCi/L		06/13/23 15:31	
SM 2540C	Total Dissolved Solids	2400	mg/L	20.0	05/11/23 08:32	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/10/23 19:08	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-14 **Lab ID: 50344230001** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**13.6**	mg/L	2.5	0.67	10		05/13/23 20:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/13/23 20:36	16984-48-8	
Sulfate	**218**	mg/L	2.5	0.85	10		05/13/23 20:55	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**185000**	ug/L	1000	88.4	1	05/10/23 17:09	05/12/23 11:45	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 11:45	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 11:45	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	0.036	1	05/10/23 07:00	05/11/23 21:50	7440-36-0	
Arsenic	**3.2**	ug/L	1.0	0.053	1	05/10/23 07:00	05/11/23 21:50	7440-38-2	
Barium	**69.0**	ug/L	1.0	0.051	1	05/10/23 07:00	05/11/23 21:50	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 07:00	05/11/23 21:50	7440-41-7	
Boron	**519**	ug/L	50.0	10.4	10	05/10/23 07:00	05/11/23 17:15	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 07:00	05/11/23 21:50	7440-43-9	
Cobalt	**1.5**	ug/L	1.0	0.032	1	05/10/23 07:00	05/11/23 21:50	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 07:00	05/11/23 21:50	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.048	1	05/10/23 07:00	05/11/23 21:50	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 07:00	05/11/23 21:50	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 07:00	05/11/23 21:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:35	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**699**	mg/L	10.0	10.0	1		05/11/23 08:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		05/10/23 19:03		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: Field Blank 2 **Lab ID: 50344230004** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	ND	mg/L	0.25	0.067	1		05/13/23 21:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/13/23 21:14	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		05/13/23 21:14	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	ND	ug/L	1000	88.4	1	05/10/23 17:09	05/12/23 11:52	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 11:52	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 11:52	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	0.036	1	05/10/23 07:00	05/11/23 17:32	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/10/23 07:00	05/11/23 17:32	7440-38-2	
Barium	**6.5**	ug/L	1.0	0.051	1	05/10/23 07:00	05/11/23 17:32	7440-39-3	C0
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 07:00	05/11/23 17:32	7440-41-7	
Boron	ND	ug/L	5.0	1.0	1	05/10/23 07:00	05/11/23 17:32	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 07:00	05/11/23 17:32	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/10/23 07:00	05/11/23 17:32	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 07:00	05/11/23 17:32	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.048	1	05/10/23 07:00	05/11/23 17:32	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 07:00	05/11/23 17:32	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 07:00	05/11/23 17:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		05/11/23 08:31		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**8.0**	Std. Units	0.10	0.10	1		05/10/23 19:06		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: DUP 2 **Lab ID: 50344230005** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**13.3**	mg/L	2.5	0.67	10		05/13/23 21:52	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/13/23 21:33	16984-48-8	
Sulfate	**219**	mg/L	2.5	0.85	10		05/13/23 21:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**185000**	ug/L	1000	88.4	1	05/10/23 17:09	05/12/23 11:59	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 11:59	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 11:59	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	0.036	1	05/10/23 07:00	05/11/23 22:00	7440-36-0	
Arsenic	**3.5**	ug/L	1.0	0.053	1	05/10/23 07:00	05/11/23 22:00	7440-38-2	
Barium	**69.7**	ug/L	1.0	0.051	1	05/10/23 07:00	05/11/23 22:00	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 07:00	05/11/23 22:00	7440-41-7	
Boron	**531**	ug/L	50.0	10.4	10	05/10/23 07:00	05/11/23 17:45	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 07:00	05/11/23 22:00	7440-43-9	
Cobalt	**1.7**	ug/L	1.0	0.032	1	05/10/23 07:00	05/11/23 22:00	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 07:00	05/11/23 22:00	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.048	1	05/10/23 07:00	05/11/23 22:00	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 07:00	05/11/23 22:00	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 07:00	05/11/23 22:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**715**	mg/L	10.0	10.0	1		05/11/23 08:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.9**	Std. Units	0.10	0.10	1		05/10/23 19:07		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-15 **Lab ID: 50344230006** Collected: 05/07/23 12:00 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**71.4**	mg/L	2.5	0.67	10		05/13/23 22:49	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.017	1		05/13/23 22:30	16984-48-8	
Sulfate	**719**	mg/L	25.0	8.5	100		05/13/23 23:45	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**252000**	ug/L	2000	177	2	05/10/23 17:09	05/12/23 12:51	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 12:01	7440-47-3	
Lithium	**817**	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 12:01	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	0.036	1	05/10/23 07:00	05/11/23 22:10	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/10/23 07:00	05/11/23 22:10	7440-38-2	
Barium	**91.7**	ug/L	1.0	0.051	1	05/10/23 07:00	05/11/23 22:10	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 07:00	05/12/23 22:59	7440-41-7	
Boron	**1280**	ug/L	100	20.8	20	05/10/23 07:00	05/11/23 17:39	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 07:00	05/11/23 22:10	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/10/23 07:00	05/11/23 22:10	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 07:00	05/11/23 22:10	7439-92-1	
Molybdenum	**104**	ug/L	10.0	0.048	1	05/10/23 07:00	05/11/23 22:10	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 07:00	05/11/23 22:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 07:00	05/11/23 22:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:47	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1280**	mg/L	20.0	20.0	1		05/11/23 08:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		05/10/23 19:07		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-16 **Lab ID: 50344230007** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**51.8**	mg/L	2.5	0.67	10		05/14/23 03:32	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	0.017	1		05/14/23 03:13	16984-48-8	
Sulfate	**1410**	mg/L	25.0	8.5	100		05/14/23 03:51	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**513000**	ug/L	5000	442	5	05/10/23 17:09	05/12/23 12:54	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 12:04	7440-47-3	
Lithium	**1300**	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 12:04	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	0.036	1	05/10/23 07:00	05/11/23 22:16	7440-36-0	
Arsenic	**6.9**	ug/L	1.0	0.053	1	05/10/23 07:00	05/11/23 22:16	7440-38-2	
Barium	**64.6**	ug/L	1.0	0.051	1	05/10/23 07:00	05/11/23 22:16	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 07:00	05/12/23 23:03	7440-41-7	
Boron	**3250**	ug/L	500	104	100	05/10/23 07:00	05/11/23 17:42	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 07:00	05/11/23 22:16	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/10/23 07:00	05/11/23 22:16	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 07:00	05/11/23 22:16	7439-92-1	
Molybdenum	**355**	ug/L	50.0	0.24	5	05/10/23 07:00	05/11/23 22:13	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 07:00	05/11/23 22:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 07:00	05/11/23 22:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2400**	mg/L	20.0	20.0	1		05/11/23 08:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/10/23 19:08		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732631
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 3362315 Matrix: Water
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	05/13/23 13:39	
Fluoride	mg/L	ND	0.10	0.017	05/13/23 13:39	
Sulfate	mg/L	ND	0.25	0.085	05/13/23 13:39	

LABORATORY CONTROL SAMPLE: 3362316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.5	2.4	96	80-120	
Fluoride	mg/L	1	1.0	104	80-120	
Sulfate	mg/L	5	5.4	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362317 3362318

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	50.2	25	25	77.8	76.9	110	107	80-120	1	15	
Fluoride	mg/L	0.16	1	1	1.3	1.3	114	112	80-120	1	15	
Sulfate	mg/L	1410	500	500	1840	2000	86	117	80-120	8	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362319 3362320

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.6	25	25	38.3	37.3	99	95	80-120	3	15	
Fluoride	mg/L	ND	1	1	1.2	1.2	106	108	80-120	2	15	
Sulfate	mg/L	218	50	50	271	277	106	117	80-120	2	15	

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

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732424
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 3361384 Matrix: Water
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	05/10/23 18:30	

LABORATORY CONTROL SAMPLE: 3361385

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: 3361386 3361387

Parameter	Units	50344230001 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	5.4	5.4	107	107	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361388 3361389

Parameter	Units	50344231001 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	4.8	102	96	75-125	6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361390 3361391

Parameter	Units	50344232001 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	4.9	102	98	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732532
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 3361854 Matrix: Water
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	88.4	05/12/23 11:02	
Chromium	ug/L	ND	10.0	2.4	05/12/23 11:02	
Lithium	ug/L	ND	20.0	6.2	05/12/23 11:02	

LABORATORY CONTROL SAMPLE: 3361855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	5330	107	80-120	
Chromium	ug/L	1000	1070	107	80-120	
Lithium	ug/L	1000	1070	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361856 3361857

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	185000	5000	5000	188000	196000	50	222	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	1020	1040	102	104	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1080	1100	108	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361858 3361859

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	421000	5000	5000	440000	433000	388	256	75-125	2	20	E,P6
Chromium	ug/L	ND	1000	1000	1010	986	101	99	75-125	3	20	
Lithium	ug/L	1590	1000	1000	2840	2800	124	121	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361860 3361861

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	185000	5000	5000	194000	206000	172	422	75-125	6	20	E,P6
Chromium	ug/L	ND	1000	1000	1010	1070	101	107	75-125	6	20	
Lithium	ug/L	ND	1000	1000	1040	1120	104	112	75-125	7	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361862 3361863

Parameter	Units	50344231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	454000	5000	5000	450000	448000	-83	-131	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	987	1030	99	103	75-125	4	20	
Lithium	ug/L	1710	1000	1000	2720	2810	101	109	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361864 3361865

Parameter	Units	50344232001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	460000	5000	5000	477000	485000	357	506	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	1030	1020	103	102	75-125	1	20	
Lithium	ug/L	1600	1000	1000	2780	2760	118	116	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732365
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 3360994 Matrix: Water
Associated Lab Samples: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.036	05/11/23 17:08	
Arsenic	ug/L	ND	1.0	0.053	05/11/23 17:08	
Barium	ug/L	ND	1.0	0.051	05/11/23 17:08	
Beryllium	ug/L	ND	0.20	0.028	05/11/23 17:08	
Boron	ug/L	ND	5.0	1.0	05/11/23 17:08	N2
Cadmium	ug/L	ND	2.0	0.0090	05/11/23 17:08	
Cobalt	ug/L	ND	1.0	0.032	05/11/23 17:08	
Lead	ug/L	ND	10.0	0.034	05/11/23 17:08	
Molybdenum	ug/L	ND	10.0	0.048	05/11/23 17:08	
Selenium	ug/L	ND	1.0	0.23	05/11/23 17:08	
Thallium	ug/L	ND	1.0	0.033	05/11/23 17:08	

LABORATORY CONTROL SAMPLE: 3360995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.7	102	80-120	
Arsenic	ug/L	40	39.0	97	80-120	
Barium	ug/L	40	38.9	97	80-120	
Beryllium	ug/L	40	40.7	102	80-120	
Boron	ug/L	40	42.4	106	80-120	N2
Cadmium	ug/L	40	38.7	97	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	39.9	100	80-120	
Molybdenum	ug/L	40	40.7	102	80-120	
Selenium	ug/L	40	38.4	96	80-120	
Thallium	ug/L	40	39.6	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360996 3360997

Parameter	Units	50344228001 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	41.6	103	104	75-125	1	20	
Arsenic	ug/L	3.9	40	40	40.6	40.8	92	92	75-125	1	20	
Barium	ug/L	72.4	40	40	115	115	106	107	75-125	0	20	
Beryllium	ug/L	ND	40	40	35.6	35.9	89	90	75-125	1	20	CL
Boron	ug/L	510	40	40	547	545	93	89	75-125	0	20	CH,E, N2

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360996 3360997

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	ND	40	40	37.4	37.6	93	94	75-125	0	20	
Cobalt	ug/L	1.6	40	40	38.7	39.6	93	95	75-125	3	20	
Lead	ug/L	ND	40	40	40.7	41.2	101	102	75-125	1	20	
Molybdenum	ug/L	ND	40	40	41.2	41.8	101	102	75-125	1	20	
Selenium	ug/L	ND	40	40	37.5	37.9	94	95	75-125	1	20	
Thallium	ug/L	ND	40	40	41.5	41.7	104	104	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360998 3360999

Parameter	Units	50344229002 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	41.9	41.7	103	102	75-125	0	20	
Arsenic	ug/L	64.7	40	40	98.8	97.6	85	82	75-125	1	20	
Barium	ug/L	103	40	40	143	142	99	97	75-125	1	20	
Beryllium	ug/L	ND	40	40	56.5	55.1	141	138	75-125	2	20	CL,M3
Boron	ug/L	1540	40	40	1680	1620	351	199	75-125	4	20	CH,E, N2,P6
Cadmium	ug/L	ND	40	40	36.7	36.6	92	91	75-125	0	20	
Cobalt	ug/L	1.6	40	40	38.7	38.4	93	92	75-125	1	20	
Lead	ug/L	ND	40	40	41.0	40.4	103	101	75-125	2	20	
Molybdenum	ug/L	277	40	40	315	314	96	92	75-125	1	20	E
Selenium	ug/L	ND	40	40	39.7	39.7	98	98	75-125	0	20	
Thallium	ug/L	ND	40	40	41.4	41.4	103	103	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361000 3361001

Parameter	Units	50344230001 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	41.4	102	103	75-125	1	20	
Arsenic	ug/L	3.2	40	40	41.2	41.0	95	95	75-125	0	20	
Barium	ug/L	69.0	40	40	110	111	104	105	75-125	0	20	
Beryllium	ug/L	ND	40	40	39.0	39.1	97	98	75-125	0	20	
Boron	ug/L	519	40	40	565	558	117	100	75-125	1	20	N2
Cadmium	ug/L	ND	40	40	37.4	37.9	93	95	75-125	1	20	
Cobalt	ug/L	1.5	40	40	39.3	39.8	95	96	75-125	1	20	
Lead	ug/L	ND	40	40	40.8	41.0	101	102	75-125	0	20	
Molybdenum	ug/L	ND	40	40	41.9	42.6	102	104	75-125	2	20	
Selenium	ug/L	ND	40	40	37.3	38.0	93	95	75-125	2	20	
Thallium	ug/L	ND	40	40	41.7	41.5	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732851
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 3363581 Matrix: Water
Associated Lab Samples: 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:26	

LABORATORY CONTROL SAMPLE: 3363582

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

SAMPLE DUPLICATE: 3363583

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	717	707	1	10	

SAMPLE DUPLICATE: 3363584

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2270	2290	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732853
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344230001

METHOD BLANK: 3363586 Matrix: Water
Associated Lab Samples: 50344230001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:43	

LABORATORY CONTROL SAMPLE: 3363587

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

SAMPLE DUPLICATE: 3363588

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	699	701	0	10	

SAMPLE DUPLICATE: 3363589

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1980	1930	3	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 732797
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: 50344230001, 50344230004, 50344230005, 50344230006, 50344230007

SAMPLE DUPLICATE: 3363115

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3363116

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 3363117

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

SAMPLE DUPLICATE: 3363118

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-14 **Lab ID: 50344230001** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.263 ± 0.274 (0.408) C:NA T:92%**	pCi/L	06/13/23 14:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.490 ± 0.320 (0.598) C:80% T:92%**	pCi/L	05/31/23 15:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.753 ± 0.594 (1.01)**	pCi/L	06/13/23 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-14 MS **Lab ID: 50344230002** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**70.80 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/13/23 14:28	13982-63-3	1d
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**67.93 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/31/23 15:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-14 MSD **Lab ID: 50344230003** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**94.62 %REC 28.80RPD ± NA (NA) C:NA T:NA**	pCi/L	06/13/23 14:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**67.43 %REC 0.74RPD ± NA (NA) C:NA T:NA**	pCi/L	05/31/23 15:18	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: Field Blank 2 **Lab ID: 50344230004** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0443 ± 0.260 (0.580) C:NA T:92%**	pCi/L	06/13/23 14:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.191 ± 0.280 (0.602) C:83% T:92%**	pCi/L	05/31/23 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.191 ± 0.540 (1.18)**	pCi/L	06/13/23 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: DUP 2 **Lab ID: 50344230005** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.267 (0.564) C:NA T:94%**	pCi/L	06/13/23 14:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.668 ± 0.324 (0.533) C:79% T:94%**	pCi/L	05/31/23 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.668 ± 0.591 (1.10)**	pCi/L	06/13/23 15:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-15 **Lab ID: 50344230006** Collected: 05/07/23 12:00 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.340 ± 0.355 (0.557) C:NA T:92%**	pCi/L	06/13/23 14:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.644 ± 0.366 (0.662) C:79% T:92%**	pCi/L	05/31/23 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.984 ± 0.721 (1.22)**	pCi/L	06/13/23 15:31	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

Sample: MW-16 **Lab ID: 50344230007** Collected: 05/07/23 07:50 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.553 ± 0.447 (0.650) C:NA T:91%**	pCi/L	06/13/23 14:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.936 ± 0.420 (0.690) C:76% T:91%**	pCi/L	05/31/23 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.49 ± 0.867 (1.34)**	pCi/L	06/13/23 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50344230

QC Batch: 588457
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: 50344230001, 50344230002, 50344230003, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 2859398 Matrix: Water
Associated Lab Samples: 50344230001, 50344230002, 50344230003, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0472 ± 0.216 (0.438) C:NA T:90%	pCi/L	06/13/23 14:05	

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 P2R3
Pace Project No.: 50344230

QC Batch: 588458 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: 50344230001, 50344230002, 50344230003, 50344230004, 50344230005, 50344230006, 50344230007

METHOD BLANK: 2859400 Matrix: Water
Associated Lab Samples: 50344230001, 50344230002, 50344230003, 50344230004, 50344230005, 50344230006, 50344230007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.643 ± 0.344 (0.604) C:83% T:90%	pCi/L	05/31/23 15:19	

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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QUALIFIERS

Project: Petersburg P2R3
Pace Project No.: 50344230

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	Matrix spike recovery low and outside of the default acceptance criteria for MS recovery. Results reported based on acceptable RPD for the RQS set.
C0	Result confirmed by second analysis.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
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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Indianapolis, IN 46268
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344230001	**MW-14**	EPA 9056	732631		
50344230004	**Field Blank 2**	EPA 9056	732631		
50344230005	**DUP 2**	EPA 9056	732631		
50344230006	**MW-15**	EPA 9056	732631		
50344230007	**MW-16**	EPA 9056	732631		
50344230001	**MW-14**	EPA 3010	732532	EPA 6010	733194
50344230004	**Field Blank 2**	EPA 3010	732532	EPA 6010	733194
50344230005	**DUP 2**	EPA 3010	732532	EPA 6010	733194
50344230006	**MW-15**	EPA 3010	732532	EPA 6010	733194
50344230007	**MW-16**	EPA 3010	732532	EPA 6010	733194
50344230001	**MW-14**	EPA 200.2	732365	EPA 6020	732733
50344230004	**Field Blank 2**	EPA 200.2	732365	EPA 6020	732733
50344230005	**DUP 2**	EPA 200.2	732365	EPA 6020	732733
50344230006	**MW-15**	EPA 200.2	732365	EPA 6020	732733
50344230007	**MW-16**	EPA 200.2	732365	EPA 6020	732733
50344230001	**MW-14**	EPA 7470	732424	EPA 7470	732773
50344230004	**Field Blank 2**	EPA 7470	732424	EPA 7470	732773
50344230005	**DUP 2**	EPA 7470	732424	EPA 7470	732773
50344230006	**MW-15**	EPA 7470	732424	EPA 7470	732773
50344230007	**MW-16**	EPA 7470	732424	EPA 7470	732773
50344230001	**MW-14**	EPA 903.1	588457		
50344230002	**MW-14 MS**	EPA 903.1	588457		
50344230003	**MW-14 MSD**	EPA 903.1	588457		
50344230004	**Field Blank 2**	EPA 903.1	588457		
50344230005	**DUP 2**	EPA 903.1	588457		
50344230006	**MW-15**	EPA 903.1	588457		
50344230007	**MW-16**	EPA 903.1	588457		
50344230001	**MW-14**	EPA 904.0	588458		
50344230002	**MW-14 MS**	EPA 904.0	588458		
50344230003	**MW-14 MSD**	EPA 904.0	588458		
50344230004	**Field Blank 2**	EPA 904.0	588458		
50344230005	**DUP 2**	EPA 904.0	588458		
50344230006	**MW-15**	EPA 904.0	588458		
50344230007	**MW-16**	EPA 904.0	588458		
50344230001	**MW-14**	Total Radium Calculation	594605		
50344230004	**Field Blank 2**	Total Radium Calculation	594605		
50344230005	**DUP 2**	Total Radium Calculation	594605		
50344230006	**MW-15**	Total Radium Calculation	594605		
50344230007	**MW-16**	Total Radium Calculation	594605		
50344230001	**MW-14**	SM 2540C	732853		
50344230004	**Field Blank 2**	SM 2540C	732851		
50344230005	**DUP 2**	SM 2540C	732851		
50344230006	**MW-15**	SM 2540C	732851		
50344230007	**MW-16**	SM 2540C	732851		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R3
Pace Project No.: 50344230

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344230001	**MW-14**	SM 4500-H+B	732797		
50344230004	**Field Blank 2**	SM 4500-H+B	732797		
50344230005	**DUP 2**	SM 4500-H+B	732797		
50344230006	**MW-15**	SM 4500-H+B	732797		
50344230007	**MW-16**	SM 4500-H+B	732797		

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CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields r

WO# : 50344230

50344230

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 Seda
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 P2R3	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/43

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
1	MW-14			5/7/23	0750				5	X		X							X	X	X	X		001
2	Field Blank 2			5/7/23	0750				5	X		X							X	X	X	X		004
3	MS			5/7/23	0750				5	X		X							X	X	X	X		002
4	DUP 2			5/7/23	0750				5	X		X							X	X	X	X		005
5	MSD 2			5/7/23	0750				5	X		X							X	X	X	X		003
6	MW-15			5/7/23	1200				5	X		X							X	X	X	X		006
7	MW-16			5/7/23	1340				5	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: Cr, Ca, Li	[signature]	5/8/23	7:45	[signature]	5/8	7:45				
6020: Be, B, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb	[signature]	5-8-23	10:00	[signature]	5/8	1000	Stat sen	y	y	y
7470 Hg										
							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: Josh O'Brian

SIGNATURE of SAMPLER: [signature] DATE Signed: 5-7-23

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 05/08/23 1520 SMK

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

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

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

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

4. **Cooler Temperature(s):** 1.3/1.3 | 0.9/0.9 | 1.1/1.1 | 0.8/0.8

(Initial/Corrected) **RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)**

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

6. **Ice Type:** ☐ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
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: 1.2/1.2 1.3/1.3 1.6/1.6 1.1/1.1 1.1/1.1 -SMK

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit		Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/ZnAc >9
1																6		6	3									S	✓			
2																2		2	1									↓	↓			
3																																
4																2		2	1									W	✓			
5																																
6																2		2	1									S	✓			
7																↓		↓	↓									↓	✓			
8																																
9																																
10																																
11																																
12																																

ntainer Codes

Glass

G9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
G9P	40mL TSP amber vial	BG1U	1L unpreserved glass
G9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
G9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass
G9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
V9H	40mL HCl clear vial	AG1H	1L HCl amber glass
V9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
V9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
GKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
GFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
FU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
G3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
G3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered
1H	1L HCl clear glass	AG3U	250mL unpres amber glass
1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P2R1
Pace Project No.: 50344231

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: Petersburg P2R1
Pace Project No.: 50344231

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Petersburg P2R1
Pace Project No.: 50344231

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344231001	**MW-3**	Water	05/07/23 15:35	05/08/23 10:00
50344231002	**MW-3 MS**	Water	05/07/23 15:35	05/08/23 10:00
50344231003	**MW-3 MSD**	Water	05/07/23 15:35	05/08/23 10:00
50344231004	**Field Blank 1**	Water	05/07/23 15:35	05/08/23 10:00
50344231005	**Dup 1**	Water	05/07/23 15:35	05/08/23 10:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R1
Pace Project No.: 50344231

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344231001	**MW-3**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344231002	**MW-3 MS**	EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50344231003	**MW-3 MSD**	EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50344231004	**Field Blank 1**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
50344231005	**Dup 1**	EPA 9056	ADM	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50344231

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344231001	**MW-3**					
EPA 9056	Chloride	51.7	mg/L	2.5	05/14/23 05:49	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/14/23 05:32	
EPA 9056	Sulfate	1420	mg/L	25.0	05/14/23 06:07	
EPA 6010	Calcium	454000	ug/L	5000	05/12/23 13:01	
EPA 6010	Lithium	1710	ug/L	20.0	05/12/23 12:06	
EPA 6020	Arsenic	32.3	ug/L	1.0	05/12/23 01:17	
EPA 6020	Barium	61.6	ug/L	1.0	05/12/23 01:17	
EPA 6020	Boron	985	ug/L	100	05/11/23 19:49	N2
EPA 6020	Cobalt	2.3	ug/L	1.0	05/12/23 01:17	
EPA 6020	Molybdenum	345	ug/L	20.0	05/12/23 00:30	
EPA 903.1	Radium-226	0.0974 ± 0.331 (0.639) C:NA T:84%	pCi/L		06/07/23 15:51	
EPA 904.0	Radium-228	0.828 ± 0.403 (0.698) C:86% T:84%	pCi/L		05/30/23 15:18	
Total Radium Calculation	Total Radium	0.925 ± 0.734 (1.34)	pCi/L		06/08/23 12:58	
SM 2540C	Total Dissolved Solids	1980	mg/L	20.0	05/11/23 08:44	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	05/10/23 19:12	H3
50344231002	**MW-3 MS**					
EPA 903.1	Radium-226	111.56 %REC ± NA (NA) C:NA T:NA	pCi/L		06/07/23 15:51	
EPA 904.0	Radium-228	82.13 %REC ± NA (NA) C:NA T:NA	pCi/L		05/30/23 15:34	
50344231003	**MW-3 MSD**					
EPA 903.1	Radium-226	100.61 %REC 10.32RPD ± NA (NA) C:NA T:NA	pCi/L		06/07/23 15:51	
EPA 904.0	Radium-228	76.12 %REC 7.60RPD ± NA (NA) C:NA T:NA	pCi/L		05/30/23 15:34	
50344231004	**Field Blank 1**					
EPA 9056	Chloride	0.26	mg/L	0.25	05/14/23 06:24	
EPA 6020	Barium	1.3	ug/L	1.0	05/11/23 20:13	C0
EPA 903.1	Radium-226	0.339 ± 0.254 (0.131) C:NA T:74%	pCi/L		06/07/23 15:51	

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SUMMARY OF DETECTION

Project: Petersburg P2R1
Pace Project No.: 50344231

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344231004	**Field Blank 1**					
EPA 904.0	Radium-228	0.618 ± 0.388 (0.717) C:84% T:74%	pCi/L		05/30/23 15:34	
Total Radium Calculation	Total Radium	0.957 ± 0.642 (0.848)	pCi/L		06/08/23 12:58	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	05/10/23 19:15	H3
50344231005	**Dup 1**					
EPA 9056	Chloride	48.8	mg/L	2.5	05/14/23 06:59	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/14/23 06:42	
EPA 9056	Sulfate	1560	mg/L	25.0	05/14/23 07:17	
EPA 6010	Calcium	474000	ug/L	5000	05/12/23 13:08	
EPA 6010	Lithium	1650	ug/L	20.0	05/12/23 12:16	
EPA 6020	Arsenic	57.3	ug/L	1.0	05/12/23 01:40	
EPA 6020	Barium	97.7	ug/L	1.0	05/12/23 01:40	
EPA 6020	Boron	1130	ug/L	100	05/11/23 20:19	N2
EPA 6020	Cobalt	1.8	ug/L	1.0	05/12/23 01:40	
EPA 6020	Molybdenum	280	ug/L	20.0	05/12/23 00:54	
EPA 903.1	Radium-226	1.16 ± 0.584 (0.698) C:NA T:91%	pCi/L		06/07/23 15:51	
EPA 904.0	Radium-228	0.245 ± 0.357 (0.768) C:76% T:91%	pCi/L		05/30/23 15:34	
Total Radium Calculation	Total Radium	1.41 ± 0.941 (1.47)	pCi/L		06/08/23 12:58	
SM 2540C	Total Dissolved Solids	2310	mg/L	20.0	05/11/23 08:32	
SM 4500-H+B	pH at 25 Degrees C	6.8	Std. Units	0.10	05/10/23 19:15	H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: MW-3 **Lab ID: 50344231001** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**51.7**	mg/L	2.5	0.67	10		05/14/23 05:49	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.017	1		05/14/23 05:32	16984-48-8	
Sulfate	**1420**	mg/L	25.0	8.5	100		05/14/23 06:07	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**454000**	ug/L	5000	442	5	05/10/23 17:09	05/12/23 13:01	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 12:06	7440-47-3	
Lithium	**1710**	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 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	0.036	1	05/10/23 15:50	05/12/23 01:17	7440-36-0	
Arsenic	**32.3**	ug/L	1.0	0.053	1	05/10/23 15:50	05/12/23 01:17	7440-38-2	
Barium	**61.6**	ug/L	1.0	0.051	1	05/10/23 15:50	05/12/23 01:17	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 15:50	05/12/23 01:17	7440-41-7	
Boron	**985**	ug/L	100	20.8	20	05/10/23 15:50	05/11/23 19:49	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 15:50	05/12/23 01:17	7440-43-9	
Cobalt	**2.3**	ug/L	1.0	0.032	1	05/10/23 15:50	05/12/23 01:17	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 15:50	05/12/23 01:17	7439-92-1	
Molybdenum	**345**	ug/L	20.0	0.096	2	05/10/23 15:50	05/12/23 00:30	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 15:50	05/12/23 01:17	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 15:50	05/12/23 01:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 18:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1980**	mg/L	20.0	20.0	1		05/11/23 08:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		05/10/23 19:12		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: Field Blank 1 **Lab ID: 50344231004** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**0.26**	mg/L	0.25	0.067	1		05/14/23 06:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/14/23 06:24	16984-48-8	
Sulfate	ND	mg/L	0.25	0.085	1		05/14/23 06:24	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	ND	ug/L	1000	88.4	1	05/10/23 17:09	05/12/23 12:13	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 12:13	7440-47-3	
Lithium	ND	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 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	0.036	1	05/10/23 15:50	05/11/23 20:13	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/10/23 15:50	05/11/23 20:13	7440-38-2	
Barium	**1.3**	ug/L	1.0	0.051	1	05/10/23 15:50	05/11/23 20:13	7440-39-3	C0
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 15:50	05/11/23 20:13	7440-41-7	
Boron	ND	ug/L	5.0	1.0	1	05/10/23 15:50	05/11/23 20:13	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 15:50	05/11/23 20:13	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/10/23 15:50	05/11/23 20:13	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 15:50	05/11/23 20:13	7439-92-1	
Molybdenum	ND	ug/L	10.0	0.048	1	05/10/23 15:50	05/11/23 20:13	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 15:50	05/11/23 20:13	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 15:50	05/11/23 20:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 19:05	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		05/11/23 08:32		PL
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.8**	Std. Units	0.10	0.10	1		05/10/23 19:15		H3

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ANALYTICAL RESULTS

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: Dup 1 **Lab ID: 50344231005** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**48.8**	mg/L	2.5	0.67	10		05/14/23 06:59	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.017	1		05/14/23 06:42	16984-48-8	
Sulfate	**1560**	mg/L	25.0	8.5	100		05/14/23 07:17	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**474000**	ug/L	5000	442	5	05/10/23 17:09	05/12/23 13:08	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	05/10/23 17:09	05/12/23 12:16	7440-47-3	
Lithium	**1650**	ug/L	20.0	6.2	1	05/10/23 17:09	05/12/23 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	0.036	1	05/10/23 15:50	05/12/23 01:40	7440-36-0	
Arsenic	**57.3**	ug/L	1.0	0.053	1	05/10/23 15:50	05/12/23 01:40	7440-38-2	
Barium	**97.7**	ug/L	1.0	0.051	1	05/10/23 15:50	05/12/23 01:40	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/10/23 15:50	05/13/23 08:00	7440-41-7	
Boron	**1130**	ug/L	100	20.8	20	05/10/23 15:50	05/11/23 20:19	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/10/23 15:50	05/12/23 01:40	7440-43-9	
Cobalt	**1.8**	ug/L	1.0	0.032	1	05/10/23 15:50	05/12/23 01:40	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/10/23 15:50	05/12/23 01:40	7439-92-1	
Molybdenum	**280**	ug/L	20.0	0.096	2	05/10/23 15:50	05/12/23 00:54	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/10/23 15:50	05/12/23 01:40	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/10/23 15:50	05/12/23 01:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/10/23 09:53	05/10/23 19:07	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2310**	mg/L	20.0	20.0	1		05/11/23 08:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.8**	Std. Units	0.10	0.10	1		05/10/23 19:15		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732632
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231001, 50344231004, 50344231005

METHOD BLANK: 3362323 Matrix: Water
Associated Lab Samples: 50344231001, 50344231004, 50344231005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	05/14/23 04:57	
Fluoride	mg/L	ND	0.10	0.017	05/14/23 04:57	
Sulfate	mg/L	ND	0.25	0.085	05/14/23 04:57	

LABORATORY CONTROL SAMPLE: 3362324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.5	2.4	95	80-120	
Fluoride	mg/L	1	1.0	101	80-120	
Sulfate	mg/L	5	4.7	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362325 3362326

Parameter	Units	50344231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	51.7	25	25	76.9	76.8	101	101	80-120	0	15	
Fluoride	mg/L	0.14	1	1	1.2	1.2	104	104	80-120	0	15	
Sulfate	mg/L	1420	500	500	1780	1770	72	71	80-120	0	15	M0

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732424
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231001, 50344231004, 50344231005

METHOD BLANK: 3361384 Matrix: Water
Associated Lab Samples: 50344231001, 50344231004, 50344231005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	05/10/23 18:30	

LABORATORY CONTROL SAMPLE: 3361385

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: 3361386 3361387

Parameter	Units	50344230001 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	5.4	5.4	107	107	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361388 3361389

Parameter	Units	50344231001 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	4.8	102	96	75-125	6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361390 3361391

Parameter	Units	50344232001 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	4.9	102	98	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732532
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231001, 50344231004, 50344231005

METHOD BLANK: 3361854 Matrix: Water
Associated Lab Samples: 50344231001, 50344231004, 50344231005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	88.4	05/12/23 11:02	
Chromium	ug/L	ND	10.0	2.4	05/12/23 11:02	
Lithium	ug/L	ND	20.0	6.2	05/12/23 11:02	

LABORATORY CONTROL SAMPLE: 3361855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	5330	107	80-120	
Chromium	ug/L	1000	1070	107	80-120	
Lithium	ug/L	1000	1070	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361856 3361857

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	185000	5000	5000	188000	196000	50	222	75-125	4	20	P6
Chromium	ug/L	ND	1000	1000	1020	1040	102	104	75-125	2	20	
Lithium	ug/L	ND	1000	1000	1080	1100	108	110	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361858 3361859

Parameter	Units	50344229002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	421000	5000	5000	440000	433000	388	256	75-125	2	20	E,P6
Chromium	ug/L	ND	1000	1000	1010	986	101	99	75-125	3	20	
Lithium	ug/L	1590	1000	1000	2840	2800	124	121	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361860 3361861

Parameter	Units	50344230001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	185000	5000	5000	194000	206000	172	422	75-125	6	20	E,P6
Chromium	ug/L	ND	1000	1000	1010	1070	101	107	75-125	6	20	
Lithium	ug/L	ND	1000	1000	1040	1120	104	112	75-125	7	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361862 3361863

Parameter	Units	50344231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	454000	5000	5000	450000	448000	-83	-131	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	987	1030	99	103	75-125	4	20	
Lithium	ug/L	1710	1000	1000	2720	2810	101	109	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361864 3361865

Parameter	Units	50344232001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	460000	5000	5000	477000	485000	357	506	75-125	2	20	P6
Chromium	ug/L	ND	1000	1000	1030	1020	103	102	75-125	1	20	
Lithium	ug/L	1600	1000	1000	2780	2760	118	116	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732586
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231001, 50344231004, 50344231005

METHOD BLANK: 3362147 Matrix: Water
Associated Lab Samples: 50344231001, 50344231004, 50344231005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.036	05/11/23 19:42	
Arsenic	ug/L	ND	1.0	0.053	05/11/23 19:42	
Barium	ug/L	ND	1.0	0.051	05/11/23 19:42	
Beryllium	ug/L	ND	0.20	0.028	05/11/23 19:42	
Boron	ug/L	ND	5.0	1.0	05/11/23 19:42	N2
Cadmium	ug/L	ND	2.0	0.0090	05/11/23 19:42	
Cobalt	ug/L	ND	1.0	0.032	05/11/23 19:42	
Lead	ug/L	ND	10.0	0.034	05/11/23 19:42	
Molybdenum	ug/L	ND	10.0	0.048	05/11/23 19:42	
Selenium	ug/L	ND	1.0	0.23	05/11/23 19:42	
Thallium	ug/L	ND	1.0	0.033	05/11/23 19:42	

LABORATORY CONTROL SAMPLE: 3362148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	103	80-120	
Arsenic	ug/L	40	39.1	98	80-120	
Barium	ug/L	40	39.2	98	80-120	
Beryllium	ug/L	40	41.6	104	80-120	
Boron	ug/L	40	44.1	110	80-120	N2
Cadmium	ug/L	40	38.8	97	80-120	
Cobalt	ug/L	40	40.9	102	80-120	
Lead	ug/L	40	41.0	102	80-120	
Molybdenum	ug/L	40	41.3	103	80-120	
Selenium	ug/L	40	38.5	96	80-120	
Thallium	ug/L	40	41.9	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362149 3362150

Parameter	Units	50344231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	41.6	41.7	103	104	75-125	0	20	
Arsenic	ug/L	32.3	40	40	69.5	69.6	93	93	75-125	0	20	
Barium	ug/L	61.6	40	40	103	103	104	104	75-125	0	20	
Beryllium	ug/L	ND	40	40	71.4	72.9	179	182	75-125	2	20	M3
Boron	ug/L	985	40	40	1030	1050	117	165	75-125	2	20	N2,P6
Cadmium	ug/L	ND	40	40	36.4	36.9	91	92	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362149 3362150

Parameter	Units	50344231001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	2.3	40	40	40.2	40.6	95	96	75-125	1	20	
Lead	ug/L	ND	40	40	40.3	40.8	101	102	75-125	1	20	
Molybdenum	ug/L	345	40	40	386	385	104	100	75-125	0	20	
Selenium	ug/L	ND	40	40	40.9	40.9	101	101	75-125	0	20	
Thallium	ug/L	ND	40	40	40.8	41.3	102	103	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362151 3362152

Parameter	Units	50344232001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	42.3	42.1	104	104	75-125	0	20	
Arsenic	ug/L	59.0	40	40	95.9	94.7	92	89	75-125	1	20	
Barium	ug/L	99.3	40	40	138	137	97	94	75-125	1	20	
Beryllium	ug/L	ND	40	40	55.9	53.6	140	134	75-125	4	20	M3
Boron	ug/L	1140	40	40	1170	1180	83	102	75-125	1	20	N2
Cadmium	ug/L	ND	40	40	36.6	36.7	91	91	75-125	0	20	
Cobalt	ug/L	1.8	40	40	39.8	39.9	95	95	75-125	0	20	
Lead	ug/L	ND	40	40	40.6	40.7	101	102	75-125	0	20	
Molybdenum	ug/L	287	40	40	327	325	101	97	75-125	1	20	
Selenium	ug/L	ND	40	40	40.7	41.0	100	101	75-125	1	20	
Thallium	ug/L	ND	40	40	41.5	41.5	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732851
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231004, 50344231005

METHOD BLANK: 3363581 Matrix: Water
Associated Lab Samples: 50344231004, 50344231005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:26	

LABORATORY CONTROL SAMPLE: 3363582

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

SAMPLE DUPLICATE: 3363583

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	717	707	1	10	

SAMPLE DUPLICATE: 3363584

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2270	2290	1	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732853
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344231001

METHOD BLANK: 3363586 Matrix: Water
Associated Lab Samples: 50344231001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/11/23 08:43	

LABORATORY CONTROL SAMPLE: 3363587

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

SAMPLE DUPLICATE: 3363588

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	699	701	0	10	

SAMPLE DUPLICATE: 3363589

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1980	1930	3	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 732797
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: 50344231001, 50344231004, 50344231005

SAMPLE DUPLICATE: 3363115

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3363116

Parameter	Units	50344229002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	2	H3

SAMPLE DUPLICATE: 3363117

Parameter	Units	50344230001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	2	H3

SAMPLE DUPLICATE: 3363118

Parameter	Units	50344231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: MW-3 **Lab ID: 50344231001** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0974 ± 0.331 (0.639) C:NA T:84%**	pCi/L	06/07/23 15:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.828 ± 0.403 (0.698) C:86% T:84%**	pCi/L	05/30/23 15:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.925 ± 0.734 (1.34)**	pCi/L	06/08/23 12:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: MW-3 MS **Lab ID: 50344231002** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**111.56 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/07/23 15:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**82.13 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/30/23 15:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: MW-3 MSD **Lab ID: 50344231003** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**100.61 %REC 10.32RPD ± NA (NA) C:NA T:NA**	pCi/L	06/07/23 15:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**76.12 %REC 7.60RPD ± NA (NA) C:NA T:NA**	pCi/L	05/30/23 15:34	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: Field Blank 1 **Lab ID: 50344231004** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.339 ± 0.254 (0.131) C:NA T:74%**	pCi/L	06/07/23 15:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.618 ± 0.388 (0.717) C:84% T:74%**	pCi/L	05/30/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.957 ± 0.642 (0.848)**	pCi/L	06/08/23 12:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

Sample: Dup 1 **Lab ID: 50344231005** Collected: 05/07/23 15:35 Received: 05/08/23 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.16 ± 0.584 (0.698) C:NA T:91%**	pCi/L	06/07/23 15:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.245 ± 0.357 (0.768) C:76% T:91%**	pCi/L	05/30/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.41 ± 0.941 (1.47)**	pCi/L	06/08/23 12:58	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 588768
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: 50344231001, 50344231002, 50344231003, 50344231004, 50344231005

METHOD BLANK: 2861034 Matrix: Water
Associated Lab Samples: 50344231001, 50344231002, 50344231003, 50344231004, 50344231005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.470 ± 0.358 (0.700) C:87% T:78%	pCi/L	05/30/23 15:34	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R1
Pace Project No.: 50344231

QC Batch: 588767
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: 50344231001, 50344231002, 50344231003, 50344231004, 50344231005

METHOD BLANK: 2861033 Matrix: Water
Associated Lab Samples: 50344231001, 50344231002, 50344231003, 50344231004, 50344231005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.189 ± 0.263 (0.439) C:NA T:78%	pCi/L	06/07/23 15:51	

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QUALIFIERS

Project: Petersburg P2R1
Pace Project No.: 50344231

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

C0	Result confirmed by second analysis.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
PL	The minimum mass of dried residue of 2.5 mg could not be obtained using the routine sample volume of 100 mL.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R1
Pace Project No.: 50344231

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344231001	**MW-3**	EPA 9056	732632		
50344231004	**Field Blank 1**	EPA 9056	732632		
50344231005	**Dup 1**	EPA 9056	732632		
50344231001	**MW-3**	EPA 3010	732532	EPA 6010	733194
50344231004	**Field Blank 1**	EPA 3010	732532	EPA 6010	733194
50344231005	**Dup 1**	EPA 3010	732532	EPA 6010	733194
50344231001	**MW-3**	EPA 200.2	732586	EPA 6020	732960
50344231004	**Field Blank 1**	EPA 200.2	732586	EPA 6020	732960
50344231005	**Dup 1**	EPA 200.2	732586	EPA 6020	732960
50344231001	**MW-3**	EPA 7470	732424	EPA 7470	732773
50344231004	**Field Blank 1**	EPA 7470	732424	EPA 7470	732773
50344231005	**Dup 1**	EPA 7470	732424	EPA 7470	732773
50344231001	**MW-3**	EPA 903.1	588767		
50344231002	**MW-3 MS**	EPA 903.1	588767		
50344231003	**MW-3 MSD**	EPA 903.1	588767		
50344231004	**Field Blank 1**	EPA 903.1	588767		
50344231005	**Dup 1**	EPA 903.1	588767		
50344231001	**MW-3**	EPA 904.0	588768		
50344231002	**MW-3 MS**	EPA 904.0	588768		
50344231003	**MW-3 MSD**	EPA 904.0	588768		
50344231004	**Field Blank 1**	EPA 904.0	588768		
50344231005	**Dup 1**	EPA 904.0	588768		
50344231001	**MW-3**	Total Radium Calculation	593573		
50344231004	**Field Blank 1**	Total Radium Calculation	593573		
50344231005	**Dup 1**	Total Radium Calculation	593573		
50344231001	**MW-3**	SM 2540C	732853		
50344231004	**Field Blank 1**	SM 2540C	732851		
50344231005	**Dup 1**	SM 2540C	732851		
50344231001	**MW-3**	SM 4500-H+B	732797		
50344231004	**Field Blank 1**	SM 4500-H+B	732797		
50344231005	**Dup 1**	SM 4500-H+B	732797		

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CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50344231

50344231

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 Sedar
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 P2R1	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/43

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	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)						
1	MW-3			5/7/23	1535				5	X		X							X	X	X	X		001
2	MSD 1			5/7/23	1535				5	X		X							X	X	X	X		002
3	MS 1			5/7/23	1535				5	X		X							+	+	+	X		003
4	Field Blank 1			5/7/23	1535				5	X		X							+	+	X	+		004
5	Dup 1			5/7/23	1535				5	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: Cr, Ca, Li		5/8/23	7:45		5/8	7:45	
6020: Be, B, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb		5-8-23	1000		5/8	1000	Dry Ice
7470 Hg							

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Josh O'Brian				
SIGNATURE of SAMPLER:		DATE Signed:	5-7-23		

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: 05/08/23 1520 SMK

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

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

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

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

4. **Cooler Temperature(s):** 1.3/1.3 | 0.9/0.9 | 1.1/1.1 | 0.8/0.8

(Initial/Corrected) **RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)**

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

6. **Ice Type:** ☐ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.**			
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: 1.2/1.2 1.3/1.3 1.6/1.6 1.1/1.1 1.1/1.1 -SMK

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VIALS: VOA VIAL HS (>6mm)	VIALS: VG9U	VIALS: DG9U	VIALS: VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1																6		6	3								M	✓			
2																															
3																															
4																2		2	1								M	✓			
5																1		1	1								L	✓			
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Container Codes

Glass

G9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
G9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
G9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
G9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
G9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
G9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
G9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
G9U	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
GKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
GFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
FU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
G3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
G3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 17, 2023

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

RE: Project: Petersburg P3R1
Pace Project No.: 50344396

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: Petersburg P3R1
Pace Project No.: 50344396

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Petersburg P3R1
Pace Project No.: 50344396

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344396001	**MW-4C**	Water	05/09/23 12:30	05/10/23 10:30
50344396002	**MW-2R**	Water	05/09/23 14:55	05/10/23 10:30

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P3R1
Pace Project No.: 50344396

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344396001	**MW-4C**	EPA 9056	ADM	1	PASI-I
		EPA 6010	JPK	5	PASI-I
		EPA 6010	DJS	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344396002	**MW-2R**	EPA 9056	ADM	1	PASI-I
		EPA 6010	JPK	5	PASI-I
		EPA 6010	DJS	4	PASI-I
		EPA 6020	CAW	2	PASI-I
		EPA 6020	DMT	4	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

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

SUMMARY OF DETECTION

Project: Petersburg P3R1
Pace Project No.: 50344396

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344396001	**MW-4C**					
EPA 9056	Bromide	0.52	mg/L	0.050	05/14/23 14:49	
EPA 6010	Magnesium	53200	ug/L	1000	05/13/23 01:27	
EPA 6010	Potassium	59100	ug/L	1000	05/13/23 01:27	
EPA 6010	Silica	19700	ug/L	450	05/13/23 01:27	N2
EPA 6010	Sodium	81300	ug/L	1000	05/13/23 01:27	
EPA 6010	Lithium, Dissolved	382	ug/L	20.0	05/14/23 18:34	
EPA 6010	Magnesium, Dissolved	50200	ug/L	1000	05/14/23 18:34	
EPA 6010	Potassium, Dissolved	65400	ug/L	1000	05/14/23 18:34	
EPA 6020	Aluminum	34.2	ug/L	10.0	05/12/23 21:20	
EPA 6020	Manganese	2360	ug/L	20.0	05/15/23 20:48	
EPA 6020	Boron, Dissolved	3620	ug/L	2000	05/15/23 03:40	N2
EPA 6020	Manganese, Dissolved	2540	ug/L	20.0	05/15/23 08:23	
SM 2320B	Alkalinity, Total as CaCO3	409	mg/L	10.0	05/10/23 18:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	409	mg/L	10.0	05/10/23 18:29	
SM 2540C	Total Dissolved Solids	2440	mg/L	40.0	05/13/23 08:31	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/12/23 15:39	H3
SM 4500-S2-D	Sulfide	0.042J	mg/L	0.10	05/12/23 11:28	
SM 5310C	Total Organic Carbon	2.1	mg/L	1.0	05/23/23 18:14	
SM 5310C	Dissolved Organic Carbon	11.7	mg/L	1.0	05/24/23 05:20	
50344396002	**MW-2R**					
EPA 9056	Bromide	0.74	mg/L	0.050	05/14/23 15:58	
EPA 6010	Iron	14500	ug/L	100	05/13/23 01:38	
EPA 6010	Magnesium	65400	ug/L	1000	05/13/23 01:38	
EPA 6010	Potassium	88000	ug/L	1000	05/13/23 01:38	
EPA 6010	Silica	17300	ug/L	450	05/13/23 01:38	N2
EPA 6010	Sodium	109000	ug/L	1000	05/13/23 01:38	
EPA 6010	Iron, Dissolved	8140	ug/L	100	05/14/23 18:36	
EPA 6010	Lithium, Dissolved	668	ug/L	20.0	05/14/23 18:36	
EPA 6010	Magnesium, Dissolved	68200	ug/L	1000	05/14/23 18:36	
EPA 6010	Potassium, Dissolved	83200	ug/L	1000	05/14/23 18:36	
EPA 6020	Aluminum	65.4	ug/L	10.0	05/12/23 21:23	
EPA 6020	Manganese	6830	ug/L	50.0	05/15/23 20:52	
EPA 6020	Boron, Dissolved	1610	ug/L	1000	05/15/23 04:46	N2
EPA 6020	Manganese, Dissolved	7280	ug/L	50.0	05/15/23 04:46	
SM 2320B	Alkalinity, Total as CaCO3	147	mg/L	10.0	05/10/23 18:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	147	mg/L	10.0	05/10/23 18:29	
SM 2540C	Total Dissolved Solids	2400	mg/L	40.0	05/13/23 08:31	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/12/23 15:39	H3
HACH 8146	Iron, Ferrous	7.7	mg/L	1.0	05/10/23 15:13	H3,N2
EPA 365.1	Phosphate as P04	1.4	mg/L	0.15	05/12/23 16:15	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/23/23 18:25	
SM 5310C	Dissolved Organic Carbon	2.2	mg/L	1.0	05/24/23 05:39	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344396

Sample: MW-4C **Lab ID: 50344396001** Collected: 05/09/23 12:30 Received: 05/10/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.52**	mg/L	0.050	0.0090	1		05/14/23 14:49	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	ND	ug/L	100	48.8	1	05/12/23 08:03	05/13/23 01:27	7439-89-6	
Magnesium	**53200**	ug/L	1000	71.8	1	05/12/23 08:03	05/13/23 01:27	7439-95-4	
Potassium	**59100**	ug/L	1000	281	1	05/12/23 08:03	05/13/23 01:27	7440-09-7	
Silica	**19700**	ug/L	450		1	05/12/23 08:03	05/13/23 01:27	7631-86-9	N2
Sodium	**81300**	ug/L	1000	214	1	05/12/23 08:03	05/13/23 01:27	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/11/23 16:02	05/14/23 18:34	7439-89-6	
Lithium, Dissolved	**382**	ug/L	20.0	6.2	1	05/11/23 16:02	05/14/23 18:34	7439-93-2	
Magnesium, Dissolved	**50200**	ug/L	1000	43.0	1	05/11/23 16:02	05/14/23 18:34	7439-95-4	
Potassium, Dissolved	**65400**	ug/L	1000	200	1	05/11/23 16:02	05/14/23 18:34	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**34.2**	ug/L	10.0	1.7	1	05/11/23 07:27	05/12/23 21:20	7429-90-5	
Manganese	**2360**	ug/L	20.0	1.3	20	05/11/23 07:27	05/15/23 20:48	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 10:33	7429-90-5	
Boron, Dissolved	**3620**	ug/L	2000	151	100	05/12/23 07:05	05/15/23 03:40	7440-42-8	N2
Manganese, Dissolved	**2540**	ug/L	20.0	0.58	20	05/12/23 07:05	05/15/23 08:23	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 10:33	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**409**	mg/L	10.0	10.0	1		05/10/23 18:29		
Alkalinity,Bicarbonate (CaCO3)	**409**	mg/L	10.0	10.0	1		05/10/23 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/10/23 18:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2440**	mg/L	40.0	40.0	1		05/13/23 08:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/12/23 15:39		H3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344396

Sample: MW-4C **Lab ID: 50344396001** Collected: 05/09/23 12:30 Received: 05/10/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	**0.042J**	mg/L	0.10	0.025	1		05/12/23 11:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/10/23 15:12	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	0.011	1		05/10/23 22:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/10/23 22:06	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/11/23 09:00	05/12/23 16:12		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.1**	mg/L	1.0	0.24	1		05/23/23 18:14	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**11.7**	mg/L	1.0	0.24	1		05/24/23 05:20		

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344396

Sample: MW-2R **Lab ID: 50344396002** Collected: 05/09/23 14:55 Received: 05/10/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.74**	mg/L	0.050	0.0090	1		05/14/23 15:58	24959-67-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron	**14500**	ug/L	100	48.8	1	05/12/23 08:03	05/13/23 01:38	7439-89-6	
Magnesium	**65400**	ug/L	1000	71.8	1	05/12/23 08:03	05/13/23 01:38	7439-95-4	
Potassium	**88000**	ug/L	1000	281	1	05/12/23 08:03	05/13/23 01:38	7440-09-7	
Silica	**17300**	ug/L	450		1	05/12/23 08:03	05/13/23 01:38	7631-86-9	N2
Sodium	**109000**	ug/L	1000	214	1	05/12/23 08:03	05/13/23 01:38	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**8140**	ug/L	100	48.8	1	05/11/23 16:02	05/14/23 18:36	7439-89-6	
Lithium, Dissolved	**668**	ug/L	20.0	6.2	1	05/11/23 16:02	05/14/23 18:36	7439-93-2	
Magnesium, Dissolved	**68200**	ug/L	1000	43.0	1	05/11/23 16:02	05/14/23 18:36	7439-95-4	
Potassium, Dissolved	**83200**	ug/L	1000	200	1	05/11/23 16:02	05/14/23 18:36	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**65.4**	ug/L	10.0	1.7	1	05/11/23 07:27	05/12/23 21:23	7429-90-5	
Manganese	**6830**	ug/L	50.0	3.2	50	05/11/23 07:27	05/15/23 20:52	7439-96-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 10:46	7429-90-5	
Boron, Dissolved	**1610**	ug/L	1000	75.5	50	05/12/23 07:05	05/15/23 04:46	7440-42-8	N2
Manganese, Dissolved	**7280**	ug/L	50.0	1.4	50	05/12/23 07:05	05/15/23 04:46	7439-96-5	
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 10:46	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**147**	mg/L	10.0	10.0	1		05/10/23 18:29		
Alkalinity,Bicarbonate (CaCO3)	**147**	mg/L	10.0	10.0	1		05/10/23 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/10/23 18:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2400**	mg/L	40.0	40.0	1		05/13/23 08:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/12/23 15:39		H3

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ANALYTICAL RESULTS

Project: Petersburg P3R1
Pace Project No.: 50344396

Sample: MW-2R **Lab ID: 50344396002** Collected: 05/09/23 14:55 Received: 05/10/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	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	0.025	1		05/12/23 11:28	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**7.7**	mg/L	1.0	0.18	5		05/10/23 15:13	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/10/23 21:43	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/10/23 21:43	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**1.4**	mg/L	0.15	0.15	1	05/11/23 09:00	05/12/23 16:15		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.4**	mg/L	1.0	0.24	1		05/23/23 18:25	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.2**	mg/L	1.0	0.24	1		05/24/23 05:39		

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733235
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3365205 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/15/23 04:46	

LABORATORY CONTROL SAMPLE: 3365206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365207 3365208

Parameter	Units	50344396001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.52	1	1	1.5	1.5	99	99	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733074
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3364545 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	100	48.8	05/13/23 01:23	
Magnesium	ug/L	ND	1000	71.8	05/13/23 01:23	
Potassium	ug/L	ND	1000	281	05/13/23 01:23	
Silica	ug/L	ND	450		05/13/23 01:23	N2
Sodium	ug/L	ND	1000	214	05/13/23 01:23	

LABORATORY CONTROL SAMPLE: 3364546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2570	103	80-120	
Magnesium	ug/L	5000	5030	101	80-120	
Potassium	ug/L	5000	4650	93	80-120	
Silica	ug/L	5350	5180	97	80-120	N2
Sodium	ug/L	5000	4770	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364547 3364548

Parameter	Units	50344396001 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	2500	2500	2830	2720	112	107	75-125	4	20	
Magnesium	ug/L	53200	5000	5000	60300	58700	142	110	75-125	3	20	P6
Potassium	ug/L	59100	5000	5000	65800	64800	135	115	75-125	2	20	P6
Silica	ug/L	19700	5350	5350	26200	25700	122	112	75-125	2	20	N2
Sodium	ug/L	81300	5000	5000	88400	87000	142	114	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732807
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3363295 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/14/23 17:40	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/14/23 17:40	
Magnesium, Dissolved	ug/L	ND	1000	43.0	05/14/23 17:40	
Potassium, Dissolved	ug/L	ND	1000	200	05/14/23 17:40	

LABORATORY CONTROL SAMPLE: 3363296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10100	101	80-120	
Lithium, Dissolved	ug/L	1000	1030	103	80-120	
Magnesium, Dissolved	ug/L	10000	9990	100	80-120	
Potassium, Dissolved	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363297 3363298

Parameter	Units	50343863005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	330	2500	2500	2880	2790	102	99	75-125	3	20	
Lithium, Dissolved	ug/L	10.5J	1000	1000	1080	1050	107	104	75-125	3	20	
Magnesium, Dissolved	ug/L	46800	5000	5000	53400	51700	132	98	75-125	3	20	P6
Potassium, Dissolved	ug/L	4090	5000	5000	9580	9520	110	109	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732764
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3362945 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	05/12/23 16:38	
Manganese	ug/L	ND	1.0	0.065	05/12/23 16:38	

LABORATORY CONTROL SAMPLE: 3362946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	402	100	80-120	
Manganese	ug/L	40	40.7	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362947 3362948

Parameter	Units	50344396002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	65.4	400	400	487	473	105	102	75-125	3	20	
Manganese	ug/L	6830	40	40	6780	6880	-129	124	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733011
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3364207 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	4.4	05/15/23 03:36	
Boron, Dissolved	ug/L	ND	20.0	1.5	05/15/23 03:36	N2
Manganese, Dissolved	ug/L	ND	1.0	0.029	05/15/23 03:36	
Molybdenum, Dissolved	ug/L	ND	10.0	0.031	05/15/23 03:36	

LABORATORY CONTROL SAMPLE: 3364208

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	400	100	80-120	
Boron, Dissolved	ug/L	40	40.4	101	80-120	N2
Manganese, Dissolved	ug/L	40	41.0	102	80-120	
Molybdenum, Dissolved	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364209 3364210

Parameter	Units	50344197007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	390	394	97	98	75-125	1	20	
Boron, Dissolved	ug/L	958	40	40	1020	1020	145	142	75-125	0	20	CH,E, N2,P6
Manganese, Dissolved	ug/L	12.3	40	40	51.0	51.2	97	97	75-125	0	20	
Molybdenum, Dissolved	ug/L	30.9	40	40	71.2	72.5	101	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732747
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3362877 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/10/23 18:29	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/10/23 18:29	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/10/23 18:29	

LABORATORY CONTROL SAMPLE: 3362878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.0	102	90-110	

SAMPLE DUPLICATE: 3362879

Parameter	Units	50343804001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	247	252	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	247	252	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3362880

Parameter	Units	50344277001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	415	424	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	415	424	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733367
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3366005 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/13/23 08:30	

LABORATORY CONTROL SAMPLE: 3366006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	280	93	80-120	

SAMPLE DUPLICATE: 3366007

Parameter	Units	50344401005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	268	270	1	10	

SAMPLE DUPLICATE: 3366008

Parameter	Units	50344402001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	238	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733299
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: 50344396001, 50344396002

SAMPLE DUPLICATE: 3365620

Parameter	Units	50343743005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	2	H3

SAMPLE DUPLICATE: 3365621

Parameter	Units	50343791001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 733159
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: 50344396001, 50344396002

METHOD BLANK: 3364986 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/12/23 11:28	

LABORATORY CONTROL SAMPLE: 3364987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364988 3364989

Parameter	Units	50344367008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.53	0.53	103	103	90-110	0	20	

MATRIX SPIKE SAMPLE: 3364990

Parameter	Units	50344402005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.34	67	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732725
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3362759 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/10/23 15:07	H3,N2

LABORATORY CONTROL SAMPLE: 3362760

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362761 3362762

Parameter	Units	50344228001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	1.1	5	5	6.3	6.3	104	105	90-110	1	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362763 3362764

Parameter	Units	50344229002 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	104	105	90-110	1	20	H3,N2

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732771
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: 50344396001

METHOD BLANK: 3362971 Matrix: Water
Associated Lab Samples: 50344396001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/10/23 20:27	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/10/23 20:27	

LABORATORY CONTROL SAMPLE: 3362972

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	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362973 3362974

Parameter	Units	50344401005 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	3.6	2	2	5.7	5.7	105	103	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	2	2	2.0	2.0	100	100	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362975 3362976

Parameter	Units	50344418003 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	0.92	1	1	2.0	2.0	104	105	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	98	98	90-110	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732779
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: 50344396002

METHOD BLANK: 3362985 Matrix: Water
Associated Lab Samples: 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/10/23 22:13	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/10/23 22:13	

LABORATORY CONTROL SAMPLE: 3362986

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362987 3362988

Parameter	Units	50344402001 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	0.14	1	1	1.1	1.1	100	100	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	99	99	90-110	0	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 732824
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: 50344396001, 50344396002

METHOD BLANK: 3363510 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/12/23 15:59	

LABORATORY CONTROL SAMPLE: 3363511

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363512 3363513

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.4	1.5				7		

MATRIX SPIKE SAMPLE: 3363514

Parameter	Units	50344396001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

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QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 735080
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3373373 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/23/23 14:34	

LABORATORY CONTROL SAMPLE: 3373374

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: 3373375 3373376

Parameter	Units	50344579001 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	11.1	11.2	99	100	80-120	1	20	

MATRIX SPIKE SAMPLE: 3374099

Parameter	Units	50344579003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.2	10	11.2	100	80-120	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P3R1
Pace Project No.: 50344396

QC Batch: 735111
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344396001, 50344396002

METHOD BLANK: 3373465 Matrix: Water
Associated Lab Samples: 50344396001, 50344396002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	05/23/23 23:40	

LABORATORY CONTROL SAMPLE: 3373466

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: 3373467 3373468

Parameter	Units	50344758016 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	20	20	24.6	24.3	101	99	80-120	1	20	

MATRIX SPIKE SAMPLE: 3374467

Parameter	Units	50344847002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.2	10	10.8	95	80-120	

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALIFIERS

Project: Petersburg P3R1
Pace Project No.: 50344396

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

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
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.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P3R1
Pace Project No.: 50344396

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344396001	**MW-4C**	EPA 9056	733235		
50344396002	**MW-2R**	EPA 9056	733235		
50344396001	**MW-4C**	EPA 3010	733074	EPA 6010	733356
50344396002	**MW-2R**	EPA 3010	733074	EPA 6010	733356
50344396001	**MW-4C**	EPA 3010	732807	EPA 6010	733455
50344396002	**MW-2R**	EPA 3010	732807	EPA 6010	733455
50344396001	**MW-4C**	EPA 200.2	732764	EPA 6020	732968
50344396002	**MW-2R**	EPA 200.2	732764	EPA 6020	732968
50344396001	**MW-4C**	EPA 200.2	733011	EPA 6020	733273
50344396002	**MW-2R**	EPA 200.2	733011	EPA 6020	733273
50344396001	**MW-4C**	SM 2320B	732747		
50344396002	**MW-2R**	SM 2320B	732747		
50344396001	**MW-4C**	SM 2540C	733367		
50344396002	**MW-2R**	SM 2540C	733367		
50344396001	**MW-4C**	SM 4500-H+B	733299		
50344396002	**MW-2R**	SM 4500-H+B	733299		
50344396001	**MW-4C**	SM 4500-S2-D	733159		
50344396002	**MW-2R**	SM 4500-S2-D	733159		
50344396001	**MW-4C**	HACH 8146	732725		
50344396002	**MW-2R**	HACH 8146	732725		
50344396001	**MW-4C**	EPA 353.2	732771		
50344396002	**MW-2R**	EPA 353.2	732779		
50344396001	**MW-4C**	EPA 365.1	732824	EPA 365.1	733349
50344396002	**MW-2R**	EPA 365.1	732824	EPA 365.1	733349
50344396001	**MW-4C**	SM 5310C	735080		
50344396002	**MW-2R**	SM 5310C	735080		
50344396001	**MW-4C**	SM 5310C	735111		
50344396002	**MW-2R**	SM 5310C	735111		

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WO# : 50344396

50344396

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l Request Document

relevant fields must be completed accurately.

Page : Of

Section A
Required Client Information:

Company:	Atlas Indianapolis
Address:	7988 Centerpoint Drive Suite 100
	Indianapolis, IN 46256
Email:	mark.breting@oneatlas.com
Phone:	(317)579-4082 Fax:
Requested Due Date:	

Section B
Required Project Informati

Report To:	Mark Breting
Copy To:	
Purchase Order #:	
Project Name:	Petersburg P3R1
Project #:	

Attention:	Accounts Payable - Paula Sedam
Company Name:	Atlas Indianapolis
Address:	
Pace Quote:	
Pace Project Manager:	Will Statz
Pace Profile #:	10498/44

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 + 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-4C			5/9/23	1230				9	X	X	X		X					X	X	X	X	X	X	X	X	X		001
2	MW-2R			5/9/23	1455				9	X	X	X		X					X	X	X	X	X	X	X	X	X		002
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 Fe, Mn, Mg, Na, K, sila) 6020 - Al	[signature]	5/10/23	8.15	[signature]	5/10/23	8.15				
** Dissolved FF 6010 (Fe, Mn, Mg, K, Li)	[signature]	5/10/23	10.30	[signature] Pace	5/10/23	1030	2.2	Y	Y	Y
Diss 6020 - B, Al, Mo							1.8	Y	Y	Y
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: Chris Burks

SIGNATURE of SAMPLER: [signature] DATE Signed: 5-9-23

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DMP 5/10/23 11:14

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

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

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

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

4. **Cooler Temperature(s):** 2.4/2.2°C | 2.0/1.8°C | | |
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

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_2, NO_3 Wet	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 11:46			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
				Present	Absent	No VOA Vials Sent
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)		N/A	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	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ZnAc Black NaOH/Zn Ac >9
1												1	1				1	2	1	1	1		1					WT	✓	✓		✓
2												1	1				1	2	1	1	1		1					WT	✓	✓		✓
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass
~~DG9T~~	~~40mL Na Thio amber vial~~	~~BG3U~~	~~250mL Unpres Clear Glass~~
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass

Plastic

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

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P4R4
Pace Project No.: 50344497

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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(317)228-3100

CERTIFICATIONS

Project: Petersburg P4R4
Pace Project No.: 50344497

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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7726 Moller Road
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(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344497001	**MW38I**	Water	05/10/23 13:10	05/10/23 16:45
50344497002	**MW38B**	Water	05/10/23 15:15	05/10/23 16:45
50344497003	**MW36B**	Water	05/10/23 11:55	05/10/23 16:45

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344497001	**MW38I**	EPA 9056	ADM	4	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW, DMT	13	PASI-I
		EPA 6020	DMT	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344497002	**MW38B**	EPA 9056	ADM	4	PASI-I
		EPA 6010	JPK	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	13	PASI-I
		EPA 6020	DMT	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344497003	**MW36B**	EPA 9056	ADM	4	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JPK	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	DMT	13	PASI-I
		EPA 6020	DMT	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344497001	**MW38I**					
EPA 9056	Bromide	0.71	mg/L	0.050	05/23/23 02:17	
EPA 9056	Chloride	110	mg/L	2.5	05/23/23 02:34	
EPA 9056	Sulfate	1530	mg/L	25.0	05/23/23 02:52	
EPA 6010	Calcium	658000	ug/L	5000	05/13/23 02:39	
EPA 6010	Iron	7200	ug/L	100	05/13/23 02:07	
EPA 6010	Magnesium	30600	ug/L	1000	05/13/23 02:07	
EPA 6010	Potassium	8980	ug/L	1000	05/13/23 02:07	
EPA 6010	Silica	11800	ug/L	450	05/13/23 02:07	N2
EPA 6010	Sodium	35800	ug/L	1000	05/13/23 02:07	
EPA 6010	Iron, Dissolved	6600	ug/L	100	05/19/23 03:55	
EPA 6010	Magnesium, Dissolved	26500	ug/L	1000	05/19/23 03:55	
EPA 6010	Potassium, Dissolved	9260	ug/L	1000	05/19/23 03:55	
EPA 6020	Aluminum	48.6	ug/L	10.0	05/15/23 13:35	
EPA 6020	Barium	28.0	ug/L	1.0	05/15/23 13:35	
EPA 6020	Boron	16500	ug/L	1250	05/15/23 04:59	N2
EPA 6020	Manganese	2570	ug/L	20.0	05/15/23 12:06	
EPA 6020	Molybdenum	232	ug/L	20.0	05/17/23 09:37	
EPA 6020	Boron, Dissolved	16800	ug/L	5000	05/15/23 04:49	N2
EPA 6020	Manganese, Dissolved	2580	ug/L	20.0	05/15/23 08:26	
EPA 6020	Molybdenum, Dissolved	244	ug/L	20.0	05/15/23 08:37	
EPA 903.1	Radium-226	-0.210 ± 0.457 (1.05) C:NA T:95%	pCi/L		06/12/23 12:55	
EPA 904.0	Radium-228	0.0946 ± 0.315 (0.713) C:77% T:88%	pCi/L		06/08/23 11:34	
Total Radium Calculation	Total Radium	0.0946 ± 0.772 (1.76)	pCi/L		06/12/23 16:06	
SM 2320B	Alkalinity, Total as CaCO3	96.0	mg/L	10.0	05/12/23 03:12	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	96.0	mg/L	10.0	05/12/23 03:12	
SM 2540C	Total Dissolved Solids	2610	mg/L	40.0	05/15/23 21:26	
SM 4500-H+B	pH at 25 Degrees C	7.0	Std. Units	0.10	05/23/23 20:07	H3
HACH 8146	Iron, Ferrous	2.7	mg/L	1.0	05/12/23 11:07	H3,N2
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	05/18/23 12:56	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	05/12/23 21:09	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	05/20/23 03:59	
50344497002	**MW38B**					
EPA 9056	Bromide	0.31	mg/L	0.050	05/23/23 03:09	
EPA 9056	Chloride	28.7	mg/L	2.5	05/23/23 03:27	
EPA 9056	Sulfate	397	mg/L	2.5	05/23/23 03:27	
EPA 6010	Calcium	234000	ug/L	2000	05/13/23 02:46	
EPA 6010	Iron	568	ug/L	100	05/13/23 02:09	
EPA 6010	Magnesium	37900	ug/L	1000	05/13/23 02:09	
EPA 6010	Potassium	1450	ug/L	1000	05/13/23 02:09	
EPA 6010	Silica	14500	ug/L	450	05/13/23 02:09	N2

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344497002	**MW38B**					
EPA 6010	Sodium	11700	ug/L	1000	05/13/23 02:09	
EPA 6010	Magnesium, Dissolved	34000	ug/L	1000	05/19/23 04:05	
EPA 6010	Potassium, Dissolved	1610	ug/L	1000	05/19/23 04:05	
EPA 6020	Aluminum	115	ug/L	10.0	05/15/23 13:39	
EPA 6020	Barium	32.3	ug/L	1.0	05/15/23 13:39	
EPA 6020	Boron	3120	ug/L	500	05/15/23 04:23	N2
EPA 6020	Manganese	375	ug/L	3.0	05/15/23 12:09	
EPA 6020	Boron, Dissolved	3420	ug/L	2000	05/15/23 03:50	N2
EPA 6020	Manganese, Dissolved	354	ug/L	3.0	05/15/23 08:30	
EPA 903.1	Radium-226	-0.137 ± 0.539 (1.14) C:NA T:91%	pCi/L		06/12/23 12:55	
EPA 904.0	Radium-228	0.346 ± 0.346 (0.707) C:77% T:84%	pCi/L		06/08/23 11:35	
Total Radium Calculation	Total Radium	0.346 ± 0.885 (1.85)	pCi/L		06/12/23 16:06	
SM 2320B	Alkalinity, Total as CaCO3	309	mg/L	10.0	05/12/23 03:12	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	309	mg/L	10.0	05/12/23 03:12	
SM 2540C	Total Dissolved Solids	902	mg/L	20.0	05/15/23 21:26	
SM 4500-H+B	pH at 25 Degrees C	6.9	Std. Units	0.10	05/23/23 20:08	H3
EPA 353.2	Nitrogen, Nitrate	2.1	mg/L	0.10	05/11/23 20:32	
EPA 365.1	Phosphate as P04	0.16	mg/L	0.15	05/18/23 12:56	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	05/12/23 21:20	
SM 5310C	Dissolved Organic Carbon	1.6	mg/L	1.0	05/20/23 04:10	
50344497003	**MW36B**					
EPA 9056	Chloride	6.6	mg/L	0.25	05/23/23 04:02	
EPA 9056	Fluoride	0.14	mg/L	0.10	05/23/23 04:02	
EPA 9056	Sulfate	39.2	mg/L	0.25	05/23/23 04:02	
EPA 6010	Calcium	111000	ug/L	1000	05/13/23 02:17	
EPA 6010	Iron	811	ug/L	100	05/13/23 02:17	
EPA 6010	Magnesium	37000	ug/L	1000	05/13/23 02:17	
EPA 6010	Silica	18800	ug/L	450	05/13/23 02:17	N2
EPA 6010	Sodium	3940	ug/L	1000	05/13/23 02:17	
EPA 6010	Magnesium, Dissolved	31100	ug/L	1000	05/19/23 04:08	
EPA 6020	Aluminum	598	ug/L	10.0	05/15/23 12:16	
EPA 6020	Barium	95.8	ug/L	1.0	05/15/23 12:16	
EPA 6020	Boron	78.4	ug/L	10.0	05/15/23 05:03	N2
EPA 6020	Manganese	43.2	ug/L	1.0	05/15/23 12:16	
EPA 6020	Selenium	1.4	ug/L	1.0	05/15/23 12:16	
EPA 6020	Boron, Dissolved	76.8	ug/L	40.0	05/15/23 04:53	N2
EPA 6020	Manganese, Dissolved	14.5	ug/L	1.0	05/15/23 10:43	

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 P4R4
Pace Project No.: 50344497

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50344497003	**MW36B**					
EPA 903.1	Radium-226	0.203 ± 0.515 (0.956) C:NA T:92%	pCi/L		06/12/23 12:55	
EPA 904.0	Radium-228	0.432 ± 0.361 (0.718) C:78% T:85%	pCi/L		06/08/23 11:35	
Total Radium Calculation	Total Radium	0.635 ± 0.876 (1.67)	pCi/L		06/12/23 16:06	
SM 2320B	Alkalinity, Total as CaCO3	350	mg/L	10.0	05/12/23 03:12	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	350	mg/L	10.0	05/12/23 03:12	
SM 2540C	Total Dissolved Solids	412	mg/L	10.0	05/15/23 21:27	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	05/23/23 20:09	H3
EPA 353.2	Nitrogen, Nitrate	3.9	mg/L	0.10	05/11/23 19:49	
EPA 365.1	Phosphate as P04	0.18	mg/L	0.15	05/18/23 12:57	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	05/20/23 04:41	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38I **Lab ID: 50344497001** Collected: 05/10/23 13:10 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.71**	mg/L	0.050	0.0090	1		05/23/23 02:17	24959-67-9	
Chloride	**110**	mg/L	2.5	0.67	10		05/23/23 02:34	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/23/23 02:17	16984-48-8	
Sulfate	**1530**	mg/L	25.0	8.5	100		05/23/23 02:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**658000**	ug/L	5000	815	5	05/12/23 08:03	05/13/23 02:39	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/12/23 08:03	05/13/23 02:07	7440-47-3	
Iron	**7200**	ug/L	100	48.8	1	05/12/23 08:03	05/13/23 02:07	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/12/23 08:03	05/13/23 02:07	7439-93-2	
Magnesium	**30600**	ug/L	1000	71.8	1	05/12/23 08:03	05/13/23 02:07	7439-95-4	
Potassium	**8980**	ug/L	1000	281	1	05/12/23 08:03	05/13/23 02:07	7440-09-7	
Silica	**11800**	ug/L	450		1	05/12/23 08:03	05/13/23 02:07	7631-86-9	N2
Sodium	**35800**	ug/L	1000	214	1	05/12/23 08:03	05/13/23 02:07	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**6600**	ug/L	100	48.8	1	05/18/23 15:37	05/19/23 03:55	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/18/23 15:37	05/19/23 03:55	7439-93-2	
Magnesium, Dissolved	**26500**	ug/L	1000	71.8	1	05/18/23 15:37	05/19/23 03:55	7439-95-4	
Potassium, Dissolved	**9260**	ug/L	1000	281	1	05/18/23 15:37	05/19/23 03:55	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**48.6**	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 13:35	7429-90-5	
Antimony	ND	ug/L	1.0	0.044	1	05/12/23 07:05	05/15/23 13:35	7440-36-0	
Arsenic	ND	ug/L	1.0	0.064	1	05/12/23 07:05	05/15/23 13:35	7440-38-2	
Barium	**28.0**	ug/L	1.0	0.067	1	05/12/23 07:05	05/15/23 13:35	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/12/23 07:05	05/15/23 13:35	7440-41-7	
Boron	**16500**	ug/L	1250	378	250	05/12/23 07:05	05/15/23 04:59	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.011	1	05/12/23 07:05	05/15/23 13:35	7440-43-9	
Cobalt	ND	ug/L	1.0	0.024	1	05/12/23 07:05	05/15/23 13:35	7440-48-4	
Lead	ND	ug/L	10.0	0.018	1	05/12/23 07:05	05/15/23 13:35	7439-92-1	
Manganese	**2570**	ug/L	20.0	0.58	20	05/12/23 07:05	05/15/23 12:06	7439-96-5	
Molybdenum	**232**	ug/L	20.0	0.096	2	05/12/23 07:05	05/17/23 09:37	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/12/23 07:05	05/15/23 13:35	7782-49-2	
Thallium	ND	ug/L	1.0	0.042	1	05/12/23 07:05	05/15/23 13:35	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 10:50	7429-90-5	
Boron, Dissolved	**16800**	ug/L	5000	378	250	05/12/23 07:05	05/15/23 04:49	7440-42-8	N2
Manganese, Dissolved	**2580**	ug/L	20.0	0.58	20	05/12/23 07:05	05/15/23 08:26	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38I **Lab ID: 50344497001** Collected: 05/10/23 13:10 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	**244**	ug/L	20.0	0.062	2	05/12/23 07:05	05/15/23 08:37	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/13/23 11:32	05/14/23 20:36	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**96.0**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Bicarbonate (CaCO3)	**96.0**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/12/23 03:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2610**	mg/L	40.0	40.0	1		05/15/23 21:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.10	1		05/23/23 20:07		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/12/23 13:00	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**2.7**	mg/L	1.0	0.18	5		05/12/23 11:07	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	0.011	1		05/11/23 20:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/11/23 20:06	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.31**	mg/L	0.15	0.15	1	05/12/23 09:30	05/18/23 12:56		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.6**	mg/L	1.0	0.24	1		05/12/23 21:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.3**	mg/L	1.0	0.24	1		05/20/23 03:59		

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38B **Lab ID: 50344497002** Collected: 05/10/23 15:15 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.31**	mg/L	0.050	0.0090	1		05/23/23 03:09	24959-67-9	
Chloride	**28.7**	mg/L	2.5	0.67	10		05/23/23 03:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		05/23/23 03:09	16984-48-8	
Sulfate	**397**	mg/L	2.5	0.85	10		05/23/23 03:27	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**234000**	ug/L	2000	326	2	05/12/23 08:03	05/13/23 02:46	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/12/23 08:03	05/13/23 02:09	7440-47-3	
Iron	**568**	ug/L	100	48.8	1	05/12/23 08:03	05/13/23 02:09	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/12/23 08:03	05/13/23 02:09	7439-93-2	
Magnesium	**37900**	ug/L	1000	71.8	1	05/12/23 08:03	05/13/23 02:09	7439-95-4	
Potassium	**1450**	ug/L	1000	281	1	05/12/23 08:03	05/13/23 02:09	7440-09-7	
Silica	**14500**	ug/L	450		1	05/12/23 08:03	05/13/23 02:09	7631-86-9	N2
Sodium	**11700**	ug/L	1000	214	1	05/12/23 08:03	05/13/23 02:09	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/18/23 15:37	05/19/23 04:05	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/18/23 15:37	05/19/23 04:05	7439-93-2	
Magnesium, Dissolved	**34000**	ug/L	1000	71.8	1	05/18/23 15:37	05/19/23 04:05	7439-95-4	
Potassium, Dissolved	**1610**	ug/L	1000	281	1	05/18/23 15:37	05/19/23 04:05	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**115**	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 13:39	7429-90-5	
Antimony	ND	ug/L	1.0	0.044	1	05/12/23 07:05	05/15/23 13:39	7440-36-0	
Arsenic	ND	ug/L	1.0	0.064	1	05/12/23 07:05	05/15/23 13:39	7440-38-2	
Barium	**32.3**	ug/L	1.0	0.067	1	05/12/23 07:05	05/15/23 13:39	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/12/23 07:05	05/15/23 13:39	7440-41-7	
Boron	**3120**	ug/L	500	151	100	05/12/23 07:05	05/15/23 04:23	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.011	1	05/12/23 07:05	05/15/23 13:39	7440-43-9	
Cobalt	ND	ug/L	1.0	0.024	1	05/12/23 07:05	05/15/23 13:39	7440-48-4	
Lead	ND	ug/L	10.0	0.018	1	05/12/23 07:05	05/15/23 13:39	7439-92-1	
Manganese	**375**	ug/L	3.0	0.087	3	05/12/23 07:05	05/15/23 12:09	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 13:39	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/12/23 07:05	05/15/23 13:39	7782-49-2	
Thallium	ND	ug/L	1.0	0.042	1	05/12/23 07:05	05/15/23 13:39	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 10:53	7429-90-5	
Boron, Dissolved	**3420**	ug/L	2000	151	100	05/12/23 07:05	05/15/23 03:50	7440-42-8	N2
Manganese, Dissolved	**354**	ug/L	3.0	0.087	3	05/12/23 07:05	05/15/23 08:30	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38B **Lab ID: 50344497002** Collected: 05/10/23 15:15 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 10:53	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/13/23 11:32	05/14/23 20:38	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**309**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Bicarbonate (CaCO3)	**309**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/12/23 03:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**902**	mg/L	20.0	20.0	1		05/15/23 21:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**6.9**	Std. Units	0.10	0.10	1		05/23/23 20:08		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/12/23 13:00	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/12/23 11:08	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**2.1**	mg/L	0.10	0.011	1		05/11/23 20:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/11/23 20:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.16**	mg/L	0.15	0.15	1	05/12/23 09:30	05/18/23 12:56		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.0**	mg/L	1.0	0.24	1		05/12/23 21:20	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.6**	mg/L	1.0	0.24	1		05/20/23 04:10		

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW36B **Lab ID: 50344497003** Collected: 05/10/23 11:55 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		05/23/23 04:02	24959-67-9	
Chloride	**6.6**	mg/L	0.25	0.067	1		05/23/23 04:02	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.017	1		05/23/23 04:02	16984-48-8	
Sulfate	**39.2**	mg/L	0.25	0.085	1		05/23/23 04:02	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**111000**	ug/L	1000	163	1	05/12/23 08:03	05/13/23 02:17	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/12/23 08:03	05/13/23 02:17	7440-47-3	
Iron	**811**	ug/L	100	48.8	1	05/12/23 08:03	05/13/23 02:17	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/12/23 08:03	05/13/23 02:17	7439-93-2	
Magnesium	**37000**	ug/L	1000	71.8	1	05/12/23 08:03	05/13/23 02:17	7439-95-4	
Potassium	ND	ug/L	1000	281	1	05/12/23 08:03	05/13/23 02:17	7440-09-7	
Silica	**18800**	ug/L	450		1	05/12/23 08:03	05/13/23 02:17	7631-86-9	N2
Sodium	**3940**	ug/L	1000	214	1	05/12/23 08:03	05/13/23 02:17	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/18/23 15:37	05/19/23 04:08	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/18/23 15:37	05/19/23 04:08	7439-93-2	
Magnesium, Dissolved	**31100**	ug/L	1000	71.8	1	05/18/23 15:37	05/19/23 04:08	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/18/23 15:37	05/19/23 04:08	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**598**	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 12:16	7429-90-5	
Antimony	ND	ug/L	1.0	0.044	1	05/12/23 07:05	05/15/23 12:16	7440-36-0	
Arsenic	ND	ug/L	1.0	0.064	1	05/12/23 07:05	05/15/23 12:16	7440-38-2	
Barium	**95.8**	ug/L	1.0	0.067	1	05/12/23 07:05	05/15/23 12:16	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	05/12/23 07:05	05/15/23 12:16	7440-41-7	
Boron	**78.4**	ug/L	10.0	3.0	2	05/12/23 07:05	05/15/23 05:03	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.011	1	05/12/23 07:05	05/15/23 12:16	7440-43-9	
Cobalt	ND	ug/L	1.0	0.024	1	05/12/23 07:05	05/15/23 12:16	7440-48-4	
Lead	ND	ug/L	10.0	0.018	1	05/12/23 07:05	05/15/23 12:16	7439-92-1	
Manganese	**43.2**	ug/L	1.0	0.029	1	05/12/23 07:05	05/15/23 12:16	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 12:16	7439-98-7	
Selenium	**1.4**	ug/L	1.0	0.23	1	05/12/23 07:05	05/15/23 12:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.042	1	05/12/23 07:05	05/15/23 12:16	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	4.4	1	05/12/23 07:05	05/15/23 10:43	7429-90-5	
Boron, Dissolved	**76.8**	ug/L	40.0	3.0	2	05/12/23 07:05	05/15/23 04:53	7440-42-8	N2
Manganese, Dissolved	**14.5**	ug/L	1.0	0.029	1	05/12/23 07:05	05/15/23 10:43	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW36B **Lab ID: 50344497003** Collected: 05/10/23 11:55 Received: 05/10/23 16:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.031	1	05/12/23 07:05	05/15/23 10:43	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/13/23 11:32	05/14/23 20:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**350**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Bicarbonate (CaCO3)	**350**	mg/L	10.0	10.0	1		05/12/23 03:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/12/23 03:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**412**	mg/L	10.0	10.0	1		05/15/23 21:27		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		05/23/23 20:09		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/12/23 13:00	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/12/23 11:06	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**3.9**	mg/L	0.10	0.011	1		05/11/23 19:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/11/23 19:49	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.18**	mg/L	0.15	0.15	1	05/12/23 09:30	05/18/23 12:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/12/23 21:30	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.0**	mg/L	1.0	0.24	1		05/20/23 04:41		

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 734159
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3369126 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	05/22/23 14:39	
Chloride	mg/L	ND	0.25	0.067	05/22/23 14:39	
Fluoride	mg/L	ND	0.10	0.017	05/22/23 14:39	
Sulfate	mg/L	ND	0.25	0.085	05/22/23 14:39	

LABORATORY CONTROL SAMPLE: 3369127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	1.0	101	80-120	
Chloride	mg/L	2.5	2.4	95	80-120	
Fluoride	mg/L	1	1.0	104	80-120	
Sulfate	mg/L	5	4.9	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3369128 3369129

Parameter	Units	50343708001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	1.1	1	1	2.1	2.1	104	104	80-120	0	15	
Chloride	mg/L	297	250	250	498	498	80	80	80-120	0	15	
Fluoride	mg/L	ND	1	1	1.0	1.0	101	101	80-120	0	15	
Sulfate	mg/L	236	50	50	285	290	97	106	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733043
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364358 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	05/14/23 19:34	

LABORATORY CONTROL SAMPLE: 3364359

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: 3364360 3364361

Parameter	Units	50344202010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.0	4.9	100	99	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364362 3364363

Parameter	Units	50344204004 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	5.0	101	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733074
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364545 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	163	05/13/23 01:23	
Chromium	ug/L	ND	10.0	0.97	05/13/23 01:23	
Iron	ug/L	ND	100	48.8	05/13/23 01:23	
Lithium	ug/L	ND	20.0	6.2	05/13/23 01:23	
Magnesium	ug/L	ND	1000	71.8	05/13/23 01:23	
Potassium	ug/L	ND	1000	281	05/13/23 01:23	
Silica	ug/L	ND	450		05/13/23 01:23	N2
Sodium	ug/L	ND	1000	214	05/13/23 01:23	

LABORATORY CONTROL SAMPLE: 3364546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	4820	96	80-120	
Chromium	ug/L	1000	917	92	80-120	
Iron	ug/L	2500	2570	103	80-120	
Lithium	ug/L	1000	948	95	80-120	
Magnesium	ug/L	5000	5030	101	80-120	
Potassium	ug/L	5000	4650	93	80-120	
Silica	ug/L	5350	5180	97	80-120	N2
Sodium	ug/L	5000	4770	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364547 3364548

Parameter	Units	50344396001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	519000	5000	5000	541000	533000	444	296	75-125	1	20	E,P6
Chromium	ug/L	ND	1000	1000	1030	981	103	98	75-125	5	20	
Iron	ug/L	ND	2500	2500	2830	2720	112	107	75-125	4	20	
Lithium	ug/L	358	1000	1000	1460	1410	110	106	75-125	3	20	
Magnesium	ug/L	53200	5000	5000	60300	58700	142	110	75-125	3	20	P6
Potassium	ug/L	59100	5000	5000	65800	64800	135	115	75-125	2	20	P6
Silica	ug/L	19700	5350	5350	26200	25700	122	112	75-125	2	20	N2
Sodium	ug/L	81300	5000	5000	88400	87000	142	114	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 734403
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3370324 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/19/23 03:48	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/19/23 03:48	
Magnesium, Dissolved	ug/L	ND	1000	71.8	05/19/23 03:48	
Potassium, Dissolved	ug/L	ND	1000	281	05/19/23 03:48	

LABORATORY CONTROL SAMPLE: 3370325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	2500	2600	104	80-120	
Lithium, Dissolved	ug/L	1000	996	100	80-120	
Magnesium, Dissolved	ug/L	5000	4640	93	80-120	
Potassium, Dissolved	ug/L	5000	5300	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370326 3370327

Parameter	Units	50344497001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6600	2500	2500	8880	9140	91	102	75-125	3	20	
Lithium, Dissolved	ug/L	ND	1000	1000	995	1050	100	105	75-125	5	20	
Magnesium, Dissolved	ug/L	26500	5000	5000	30200	30800	74	87	75-125	2	20	P6
Potassium, Dissolved	ug/L	9260	5000	5000	14400	15000	102	115	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733005
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364182 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	4.4	05/15/23 04:09	
Antimony	ug/L	ND	1.0	0.044	05/15/23 04:09	
Arsenic	ug/L	ND	1.0	0.064	05/15/23 04:09	
Barium	ug/L	ND	1.0	0.067	05/15/23 04:09	
Beryllium	ug/L	ND	0.20	0.026	05/15/23 04:09	
Boron	ug/L	ND	5.0	1.5	05/15/23 04:09	N2
Cadmium	ug/L	ND	2.0	0.011	05/15/23 04:09	
Cobalt	ug/L	ND	1.0	0.024	05/15/23 04:09	
Lead	ug/L	ND	10.0	0.018	05/15/23 04:09	
Manganese	ug/L	ND	1.0	0.029	05/15/23 04:09	
Molybdenum	ug/L	ND	10.0	0.048	05/15/23 04:09	
Selenium	ug/L	ND	1.0	0.23	05/15/23 04:09	
Thallium	ug/L	ND	1.0	0.042	05/15/23 04:09	

LABORATORY CONTROL SAMPLE: 3364183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	405	101	80-120	
Antimony	ug/L	40	41.7	104	80-120	
Arsenic	ug/L	40	40.2	101	80-120	
Barium	ug/L	40	38.9	97	80-120	
Beryllium	ug/L	40	38.0	95	80-120	
Boron	ug/L	40	40.9	102	80-120	N2
Cadmium	ug/L	40	40.7	102	80-120	
Cobalt	ug/L	40	40.6	102	80-120	
Lead	ug/L	40	41.3	103	80-120	
Manganese	ug/L	40	41.2	103	80-120	
Molybdenum	ug/L	40	41.2	103	80-120	
Selenium	ug/L	40	39.6	99	80-120	
Thallium	ug/L	40	41.9	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364184 3364185

Parameter	Units	50344067010 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	400	400	408	412	102	103	75-125	1	20	
Antimony	ug/L	ND	40	40	42.3	42.7	106	107	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364184 3364185

Parameter	Units	50344067010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	14.4	40	40	53.5	54.9	98	101	75-125	3	20	
Barium	ug/L	169	40	40	207	210	97	103	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.1	38.8	95	97	75-125	2	20	
Boron	ug/L	177	40	40	224	227	117	124	75-125	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.2	95	95	75-125	1	20	
Cobalt	ug/L	1.2J	40	40	38.9	39.2	94	95	75-125	1	20	
Lead	ug/L	0.18J	40	40	41.2	41.8	103	104	75-125	1	20	
Manganese	ug/L	164	40	40	203	204	98	100	75-125	0	20	
Molybdenum	ug/L	0.67J	40	40	40.5	40.7	100	100	75-125	1	20	
Selenium	ug/L	ND	40	40	37.6	38.4	94	96	75-125	2	20	
Thallium	ug/L	ND	40	40	42.9	43.5	107	109	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733011
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364207 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	4.4	05/15/23 03:36	
Boron, Dissolved	ug/L	ND	20.0	1.5	05/15/23 03:36	N2
Manganese, Dissolved	ug/L	ND	1.0	0.029	05/15/23 03:36	
Molybdenum, Dissolved	ug/L	ND	10.0	0.031	05/15/23 03:36	

LABORATORY CONTROL SAMPLE: 3364208

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	400	100	80-120	
Boron, Dissolved	ug/L	40	40.4	101	80-120	N2
Manganese, Dissolved	ug/L	40	41.0	102	80-120	
Molybdenum, Dissolved	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364209 3364210

Parameter	Units	50344197007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	390	394	97	98	75-125	1	20	
Boron, Dissolved	ug/L	958	40	40	1020	1020	145	142	75-125	0	20	CH,E, N2,P6
Manganese, Dissolved	ug/L	12.3	40	40	51.0	51.2	97	97	75-125	0	20	
Molybdenum, Dissolved	ug/L	30.9	40	40	71.2	72.5	101	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733063
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364464 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/12/23 03:12	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/12/23 03:12	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/12/23 03:12	

LABORATORY CONTROL SAMPLE: 3364465

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.2	104	90-110	

SAMPLE DUPLICATE: 3364466

Parameter	Units	50344353001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	265	271	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	246	251	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	18.8	19.6	4	20	

SAMPLE DUPLICATE: 3364467

Parameter	Units	50344376004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	52.6	53.8	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	52.6	53.8	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733654
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3367028 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/15/23 21:21	

LABORATORY CONTROL SAMPLE: 3367029

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

SAMPLE DUPLICATE: 3367030

Parameter	Units	50344471009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	430	410	5	10	

SAMPLE DUPLICATE: 3367031

Parameter	Units	50344507001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10100	10100	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 735414
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: 50344497001, 50344497002, 50344497003

SAMPLE DUPLICATE: 3374626

Parameter	Units	50344471012 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	2	H3

SAMPLE DUPLICATE: 3374627

Parameter	Units	50344550003 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: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733165
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: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3365002 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/12/23 13:00	

LABORATORY CONTROL SAMPLE: 3365003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365004 3365005

Parameter	Units	50344402001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.12	0.5	0.5	0.45	0.45	66	66	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 3365006

Parameter	Units	50344508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.35	69	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733148
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364935 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/12/23 11:01	H3,N2

LABORATORY CONTROL SAMPLE: 3364936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364937 3364938

Parameter	Units	50344277001 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	0.29	1	1	1.4	1.4	110	110	90-110	0	20	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364939 3364940

Parameter	Units	50344542007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	107	108	90-110	1	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733067
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: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364485 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/11/23 19:43	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/11/23 19:43	

LABORATORY CONTROL SAMPLE: 3364486

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.97	97	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364487 3364488

Parameter	Units	50344523002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.97	0.99	96	98	90-110	2	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	20	

MATRIX SPIKE SAMPLE: 3364489

Parameter	Units	50344497002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	2.1	1	0.95	-115	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.98	98	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733110
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: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3364681 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/18/23 12:53	

LABORATORY CONTROL SAMPLE: 3364682

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364683 3364684

Parameter	Units	50344367008 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	0.82			2.6	2.4				5		

MATRIX SPIKE SAMPLE: 3364685

Parameter	Units	50344212001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	3.3		4.9			

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 733225
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3365159 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/15/23 17:24	

LABORATORY CONTROL SAMPLE: 3365160

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: 3365161 3365162

Parameter	Units	50343863005 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	1.2J	10	10	11.1	11.0	99	99	80-120	0	20	

MATRIX SPIKE SAMPLE: 3365163

Parameter	Units	50343926001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.5	10	10.8	93	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 734736
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344497001, 50344497002, 50344497003

METHOD BLANK: 3371795 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	05/19/23 23:31	

LABORATORY CONTROL SAMPLE: 3371796

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: 3371797 3371798

Parameter	Units	50344603014 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	13.8	20	20	33.5	33.1	99	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 3372292

Parameter	Units	50344471016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	25.1	40	65.8	102	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38I **Lab ID: 50344497001** Collected: 05/10/23 13:10 Received: 05/10/23 16:45 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	**-0.210 ± 0.457 (1.05) C:NA T:95%**	pCi/L	06/12/23 12:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0946 ± 0.315 (0.713) C:77% T:88%**	pCi/L	06/08/23 11:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0946 ± 0.772 (1.76)**	pCi/L	06/12/23 16:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW38B **Lab ID: 50344497002** Collected: 05/10/23 15:15 Received: 05/10/23 16:45 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	**-0.137 ± 0.539 (1.14) C:NA T:91%**	pCi/L	06/12/23 12:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.346 ± 0.346 (0.707) C:77% T:84%**	pCi/L	06/08/23 11:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.346 ± 0.885 (1.85)**	pCi/L	06/12/23 16:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R4
Pace Project No.: 50344497

Sample: MW36B **Lab ID: 50344497003** Collected: 05/10/23 11:55 Received: 05/10/23 16:45 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	**0.203 ± 0.515 (0.956) C:NA T:92%**	pCi/L	06/12/23 12:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.432 ± 0.361 (0.718) C:78% T:85%**	pCi/L	06/08/23 11:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.635 ± 0.876 (1.67)**	pCi/L	06/12/23 16:06	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 589831
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: 50344497001, 50344497002, 50344497003

METHOD BLANK: 2866223 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.108 ± 0.260 (0.501) C:NA T:91%	pCi/L	06/12/23 12:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R4
Pace Project No.: 50344497

QC Batch: 589851
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: 50344497001, 50344497002, 50344497003

METHOD BLANK: 2866256 Matrix: Water
Associated Lab Samples: 50344497001, 50344497002, 50344497003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.103 ± 0.275 (0.679) C:73% T:86%	pCi/L	06/08/23 11:34	

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QUALIFIERS

Project: Petersburg P4R4
Pace Project No.: 50344497

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344497001	**MW38I**	EPA 9056	734159		
50344497002	**MW38B**	EPA 9056	734159		
50344497003	**MW36B**	EPA 9056	734159		
50344497001	**MW38I**	EPA 3010	733074	EPA 6010	733356
50344497002	**MW38B**	EPA 3010	733074	EPA 6010	733356
50344497003	**MW36B**	EPA 3010	733074	EPA 6010	733356
50344497001	**MW38I**	EPA 3010	734403	EPA 6010	734617
50344497002	**MW38B**	EPA 3010	734403	EPA 6010	734617
50344497003	**MW36B**	EPA 3010	734403	EPA 6010	734617
50344497001	**MW38I**	EPA 200.2	733005	EPA 6020	733272
50344497002	**MW38B**	EPA 200.2	733005	EPA 6020	733272
50344497003	**MW36B**	EPA 200.2	733005	EPA 6020	733272
50344497001	**MW38I**	EPA 200.2	733011	EPA 6020	733273
50344497002	**MW38B**	EPA 200.2	733011	EPA 6020	733273
50344497003	**MW36B**	EPA 200.2	733011	EPA 6020	733273
50344497001	**MW38I**	EPA 7470	733043	EPA 7470	733457
50344497002	**MW38B**	EPA 7470	733043	EPA 7470	733457
50344497003	**MW36B**	EPA 7470	733043	EPA 7470	733457
50344497001	**MW38I**	EPA 903.1	589831		
50344497002	**MW38B**	EPA 903.1	589831		
50344497003	**MW36B**	EPA 903.1	589831		
50344497001	**MW38I**	EPA 904.0	589851		
50344497002	**MW38B**	EPA 904.0	589851		
50344497003	**MW36B**	EPA 904.0	589851		
50344497001	**MW38I**	Total Radium Calculation	594282		
50344497002	**MW38B**	Total Radium Calculation	594282		
50344497003	**MW36B**	Total Radium Calculation	594282		
50344497001	**MW38I**	SM 2320B	733063		
50344497002	**MW38B**	SM 2320B	733063		
50344497003	**MW36B**	SM 2320B	733063		
50344497001	**MW38I**	SM 2540C	733654		
50344497002	**MW38B**	SM 2540C	733654		
50344497003	**MW36B**	SM 2540C	733654		
50344497001	**MW38I**	SM 4500-H+B	735414		
50344497002	**MW38B**	SM 4500-H+B	735414		
50344497003	**MW36B**	SM 4500-H+B	735414		
50344497001	**MW38I**	SM 4500-S2-D	733165		
50344497002	**MW38B**	SM 4500-S2-D	733165		
50344497003	**MW36B**	SM 4500-S2-D	733165		
50344497001	**MW38I**	HACH 8146	733148		
50344497002	**MW38B**	HACH 8146	733148		
50344497003	**MW36B**	HACH 8146	733148		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R4
Pace Project No.: 50344497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344497001	**MW38I**	EPA 353.2	733067		
50344497002	**MW38B**	EPA 353.2	733067		
50344497003	**MW36B**	EPA 353.2	733067		
50344497001	**MW38I**	EPA 365.1	733110	EPA 365.1	734246
50344497002	**MW38B**	EPA 365.1	733110	EPA 365.1	734246
50344497003	**MW36B**	EPA 365.1	733110	EPA 365.1	734246
50344497001	**MW38I**	SM 5310C	733225		
50344497002	**MW38B**	SM 5310C	733225		
50344497003	**MW36B**	SM 5310C	733225		
50344497001	**MW38I**	SM 5310C	734736		
50344497002	**MW38B**	SM 5310C	734736		
50344497003	**MW36B**	SM 5310C	734736		

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WO# : 50344497

50344497

uest Document

fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:

Company:	Atlas Indianapolis
Address:	7988 Centerpoint Drive Suite 100
	Indianapolis, IN 46256
Email:	mark.breting@oneatlas.com
Phone:	(317)579-4082 Fax:
Requested Due Date:	

Section B
Required Project Information:

Report To:	Mark Breting
Copy To:	
Purchase Order #:	
Project Name:	Petersburg P4R4
Project #:	

	ula Sedam
	Atlas Indianapolis
Address:	
Pace Quote:	
Pace Project Manager:	Will Statz
Pace Profile #:	10498/45

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	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW 38I	WT	G			5-10	13:10		11	✓	✓	✓		✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	MW 38B	WT	G			5-10	15:15		11	✓	✓	✓		✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	MW 36B	WT	G			5-10	11:55		11	✓	✓	✓		✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Carsen Clouser	5/10/23	15:55	Mohammed Baghouit	5/10/23	16:45				
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)					5/10/23	16:45	0.5	Y	Y	Y
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)							0.9			
Alkalinity = (Total , Bicarb & Carb)										

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Carsen Clouser

SIGNATURE of SAMPLER: Carsen Clouser

DATE Signed: 5/10/23

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MCS 5/11/23 0755

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)

2.7/2.7	2.1/2.1		

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** NO2 / NO3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			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: Did not receive "MW-38B", did receive "MW-38S" taken 5/10 @ 1515 (MCS 5/11/23)

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only)		VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS																												Red	Yellow	Green	Black
		DI																															
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1					✓	✓		✓
2																																	
3												1	1			2	1	2	1	1	1		1					✓	✓		✓
4										"MW-38S"		1	1			2	1	2	1	1	1		1					✓	✓		✓
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P4R3
Pace Project No.: 50345193

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 18, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
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 P4R3
Pace Project No.: 50345193

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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SAMPLE SUMMARY

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50345193001	**MW-19B**	Water	05/17/23 09:50	05/18/23 10:30
50345193002	**MW-19I**	Water	05/17/23 11:20	05/18/23 10:30
50345193003	**MW-19A**	Water	05/17/23 12:20	05/18/23 10:30
50345193004	**MW-20B**	Water	05/17/23 15:00	05/18/23 10:30
50345193005	**MW-20B MS**	Water	05/17/23 15:00	05/18/23 10:30
50345193006	**MW-20B MSD**	Water	05/17/23 15:00	05/18/23 10:30
50345193007	**DUP 5**	Water	05/17/23 15:00	05/18/23 10:30
50345193008	**MW-20I**	Water	05/17/23 16:50	05/18/23 10:30
50345193009	**MW-20A**	Water	05/17/23 18:20	05/18/23 10:30

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50345193001	**MW-19B**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50345193002	**MW-19I**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50345193003	**MW-19A**	EPA 9056	RID	4	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50345193004	**MW-20B**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50345193005	**MW-20B MS**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50345193006	**MW-20B MSD**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
50345193007	**DUP 5**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I
50345193008	**MW-20I**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	MMS	1	PASI-I
50345193009	**MW-20A**	EPA 9056	RID	4	PASI-I
		EPA 6010	MTM	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	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: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193001	**MW-19B**					
EPA 9056	Bromide	0.056	mg/L	0.050	06/01/23 03:58	
EPA 9056	Chloride	9.7	mg/L	0.25	06/01/23 03:58	
EPA 9056	Fluoride	0.13	mg/L	0.10	06/01/23 03:58	
EPA 9056	Sulfate	43.3	mg/L	0.25	06/01/23 03:58	
EPA 6010	Calcium	107000	ug/L	1000	05/31/23 13:02	
EPA 6010	Iron	633	ug/L	100	05/31/23 11:57	
EPA 6010	Magnesium	21800	ug/L	1000	05/31/23 11:57	
EPA 6010	Potassium	2850	ug/L	1000	05/31/23 11:57	
EPA 6010	Silica	10500	ug/L	450	05/31/23 11:57	N2
EPA 6010	Sodium	7630	ug/L	1000	05/31/23 11:57	
EPA 6010	Magnesium, Dissolved	21000	ug/L	1000	05/31/23 00:39	
EPA 6010	Potassium, Dissolved	2670	ug/L	1000	05/31/23 00:39	
EPA 6020	Aluminum	29.3	ug/L	10.0	06/01/23 02:58	
EPA 6020	Barium	63.7	ug/L	1.0	06/01/23 02:58	
EPA 6020	Boron	389	ug/L	50.0	05/31/23 17:44	N2
EPA 6020	Manganese	10	ug/L	1.0	06/01/23 02:58	
EPA 6020	Selenium	2.1	ug/L	1.0	06/01/23 02:58	
EPA 6020	Boron, Dissolved	364	ug/L	200	05/31/23 19:14	N2
EPA 6020	Manganese, Dissolved	2.5	ug/L	1.0	06/01/23 04:17	
EPA 903.1	Radium-226	-0.0879 ± 0.401 (0.946) C:NA T:93%	pCi/L		06/16/23 15:59	
EPA 904.0	Radium-228	0.210 ± 0.309 (0.666) C:92% T:80%	pCi/L		06/12/23 16:42	
Total Radium Calculation	Total Radium	0.210 ± 0.710 (1.61)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	285	mg/L	10.0	05/19/23 02:08	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	285	mg/L	10.0	05/19/23 02:08	
SM 2540C	Total Dissolved Solids	363	mg/L	10.0	05/24/23 08:22	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	06/02/23 13:39	H3
SM 4500-S2-D	Sulfide	0.088J	mg/L	0.10	05/18/23 16:01	
EPA 353.2	Nitrogen, Nitrate	6.0	mg/L	0.20	05/18/23 23:08	
SM 5310C	Dissolved Organic Carbon	1.4	mg/L	1.0	06/01/23 21:06	
50345193002	**MW-19I**					
EPA 9056	Bromide	0.096	mg/L	0.050	06/01/23 04:34	
EPA 9056	Chloride	12.4	mg/L	0.25	06/01/23 04:34	
EPA 9056	Fluoride	0.10	mg/L	0.10	06/01/23 04:34	
EPA 9056	Sulfate	52.2	mg/L	2.5	06/01/23 04:52	
EPA 6010	Calcium	109000	ug/L	1000	05/31/23 13:04	
EPA 6010	Magnesium	25000	ug/L	1000	05/31/23 12:00	
EPA 6010	Silica	9370	ug/L	450	05/31/23 12:00	N2
EPA 6010	Sodium	8080	ug/L	1000	05/31/23 12:00	
EPA 6010	Magnesium, Dissolved	23700	ug/L	1000	05/31/23 00:41	
EPA 6020	Barium	57.6	ug/L	1.0	06/01/23 03:02	

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193002	**MW-19I**					
EPA 6020	Boron	710	ug/L	50.0	05/31/23 17:50	N2
EPA 6020	Manganese	1860	ug/L	20.0	05/31/23 17:47	
EPA 6020	Boron, Dissolved	655	ug/L	200	05/31/23 19:21	N2
EPA 6020	Manganese, Dissolved	1770	ug/L	20.0	05/31/23 19:18	
EPA 903.1	Radium-226	0.000 ± 0.512 (1.08) C:NA T:91%	pCi/L		06/16/23 15:59	
EPA 904.0	Radium-228	0.562 ± 0.361 (0.667) C:84% T:82%	pCi/L		06/12/23 16:42	
Total Radium Calculation	Total Radium	0.562 ± 0.873 (1.75)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	307	mg/L	10.0	05/21/23 08:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	307	mg/L	10.0	05/21/23 08:04	
SM 2540C	Total Dissolved Solids	371	mg/L	10.0	05/24/23 08:22	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	06/02/23 13:40	H3
SM 5310C	Dissolved Organic Carbon	2.7	mg/L	1.0	06/01/23 21:17	
50345193003	**MW-19A**					
EPA 9056	Bromide	0.77	mg/L	0.050	06/01/23 05:46	
EPA 9056	Chloride	122	mg/L	2.5	06/01/23 06:04	
EPA 9056	Sulfate	1290	mg/L	25.0	06/01/23 06:22	
EPA 6010	Calcium	648000	ug/L	5000	05/31/23 13:07	
EPA 6010	Iron	10300	ug/L	100	05/31/23 12:02	
EPA 6010	Magnesium	32700	ug/L	1000	05/31/23 12:02	
EPA 6010	Potassium	14100	ug/L	1000	05/31/23 12:02	
EPA 6010	Silica	12800	ug/L	450	05/31/23 12:02	N2
EPA 6010	Sodium	48400	ug/L	1000	05/31/23 12:02	
EPA 6010	Iron, Dissolved	9420	ug/L	100	05/31/23 00:48	
EPA 6010	Magnesium, Dissolved	31300	ug/L	1000	05/31/23 00:48	
EPA 6010	Potassium, Dissolved	13200	ug/L	1000	05/31/23 00:48	
EPA 6020	Aluminum	79.5	ug/L	10.0	06/01/23 03:08	
EPA 6020	Arsenic	1.1	ug/L	1.0	06/01/23 03:08	
EPA 6020	Barium	33.8	ug/L	1.0	06/01/23 03:08	
EPA 6020	Boron	24900	ug/L	2500	05/31/23 18:00	N2
EPA 6020	Manganese	1990	ug/L	20.0	06/01/23 03:05	
EPA 6020	Molybdenum	747	ug/L	200	06/01/23 03:05	
EPA 6020	Boron, Dissolved	22900	ug/L	10000	05/31/23 19:31	N2
EPA 6020	Manganese, Dissolved	1930	ug/L	20.0	06/01/23 04:24	
EPA 6020	Molybdenum, Dissolved	706	ug/L	200	06/01/23 04:24	
EPA 903.1	Radium-226	0.173 ± 0.757 (1.44) C:NA T:100%	pCi/L		06/16/23 15:59	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193003	**MW-19A**					
EPA 904.0	Radium-228	0.463 ± 0.344 (0.665) C:85% T:84%	pCi/L		06/12/23 16:42	
Total Radium Calculation	Total Radium	0.636 ± 1.10 (2.11)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	111	mg/L	10.0	05/21/23 08:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	10.0	05/21/23 08:04	
SM 2540C	Total Dissolved Solids	2420	mg/L	40.0	05/24/23 08:23	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	06/02/23 13:40	H3
HACH 8146	Iron, Ferrous	3.5	mg/L	1.0	05/19/23 14:09	H3,N2
EPA 365.1	Phosphate as P04	0.31	mg/L	0.15	05/31/23 09:02	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	05/26/23 21:55	
SM 5310C	Dissolved Organic Carbon	2.0	mg/L	1.0	06/01/23 21:29	
50345193004	**MW-20B**					
EPA 9056	Bromide	0.067	mg/L	0.050	06/01/23 05:10	
EPA 9056	Chloride	12.9	mg/L	2.5	06/01/23 05:28	
EPA 9056	Sulfate	61.1	mg/L	2.5	06/01/23 05:28	
EPA 6010	Calcium	174000	ug/L	1000	05/31/23 13:09	
EPA 6010	Iron	172	ug/L	100	05/31/23 12:04	
EPA 6010	Magnesium	28300	ug/L	1000	05/31/23 12:04	
EPA 6010	Potassium	1060	ug/L	1000	05/31/23 12:04	
EPA 6010	Silica	14000	ug/L	450	05/31/23 12:04	N2
EPA 6010	Sodium	13100	ug/L	1000	05/31/23 12:04	
EPA 6010	Magnesium, Dissolved	25200	ug/L	1000	05/31/23 00:50	
EPA 6020	Aluminum	103	ug/L	10.0	06/01/23 03:18	
EPA 6020	Barium	102	ug/L	1.0	06/01/23 03:18	
EPA 6020	Boron	469	ug/L	50.0	05/31/23 18:04	N2
EPA 6020	Manganese	14.4	ug/L	1.0	06/01/23 03:18	
EPA 6020	Selenium	8.5	ug/L	1.0	06/01/23 03:18	
EPA 6020	Boron, Dissolved	441	ug/L	200	05/31/23 19:35	N2
EPA 903.1	Radium-226	0.405 ± 0.531 (0.885) C:NA T:93%	pCi/L		06/16/23 15:59	
EPA 904.0	Radium-228	0.439 ± 0.314 (0.599) C:89% T:88%	pCi/L		06/12/23 16:43	
Total Radium Calculation	Total Radium	0.844 ± 0.845 (1.48)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	446	mg/L	10.0	05/21/23 08:53	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	446	mg/L	10.0	05/21/23 08:53	
SM 2540C	Total Dissolved Solids	578	mg/L	10.0	05/24/23 08:23	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	06/02/23 13:41	H3
EPA 353.2	Nitrogen, Nitrate	4.7	mg/L	0.10	05/19/23 11:36	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	05/26/23 22:21	

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SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193004	**MW-20B**					
SM 5310C	Dissolved Organic Carbon	2.1	mg/L	1.0	06/01/23 21:40	
50345193005	**MW-20B MS**					
EPA 903.1	Radium-226	82.22 %REC ± NA (NA) C:NA T:NA	pCi/L		06/16/23 16:50	
EPA 904.0	Radium-228	74.14 %REC ± NA (NA) C:NA T:NA	pCi/L		06/12/23 16:43	
50345193006	**MW-20B MSD**					
EPA 903.1	Radium-226	109.68 %REC 28.62RPD ± NA (NA) C:NA T:NA	pCi/L		06/16/23 15:59	
EPA 904.0	Radium-228	52.91 %REC 33.42RPD ± NA(NA) C:NA T:NA	pCi/L		06/12/23 16:43	
50345193007	**DUP 5**					
EPA 9056	Bromide	0.072	mg/L	0.050	06/01/23 08:29	
EPA 9056	Chloride	12.8	mg/L	2.5	06/01/23 08:48	
EPA 9056	Sulfate	62.0	mg/L	2.5	06/01/23 08:48	
EPA 6010	Calcium	174000	ug/L	1000	05/31/23 12:53	
EPA 6010	Iron	153	ug/L	100	05/31/23 12:53	
EPA 6010	Magnesium	26000	ug/L	1000	05/31/23 12:53	
EPA 6010	Potassium	1050	ug/L	1000	05/31/23 12:53	
EPA 6010	Silica	12700	ug/L	450	05/31/23 12:53	N2
EPA 6010	Sodium	12200	ug/L	1000	05/31/23 12:53	
EPA 6010	Magnesium, Dissolved	25700	ug/L	1000	05/31/23 00:56	
EPA 6020	Aluminum	133	ug/L	10.0	06/01/23 03:41	
EPA 6020	Barium	103	ug/L	1.0	06/01/23 03:41	
EPA 6020	Boron	453	ug/L	50.0	05/31/23 18:31	N2
EPA 6020	Manganese	15.9	ug/L	1.0	06/01/23 03:41	
EPA 6020	Selenium	8.5	ug/L	1.0	06/01/23 03:41	
EPA 6020	Boron, Dissolved	447	ug/L	200	05/31/23 20:01	N2
EPA 903.1	Radium-226	0.192 ± 0.704 (1.35) C:NA T:97%	pCi/L		06/16/23 15:59	
EPA 904.0	Radium-228	0.723 ± 0.466 (0.895) C:85% T:81%	pCi/L		06/12/23 16:43	
Total Radium Calculation	Total Radium	0.915 ± 1.17 (2.25)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	442	mg/L	10.0	05/21/23 08:04	

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SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193007	**DUP 5**					
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	442	mg/L	10.0	05/21/23 08:04	
SM 2540C	Total Dissolved Solids	580	mg/L	10.0	05/24/23 08:23	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	06/02/23 13:42	H3
EPA 353.2	Nitrogen, Nitrate	4.6	mg/L	0.10	05/19/23 13:23	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	05/26/23 23:31	
SM 5310C	Dissolved Organic Carbon	2.3	mg/L	1.0	06/01/23 22:11	
50345193008	**MW-20I**					
EPA 9056	Chloride	6.8	mg/L	0.25	06/01/23 09:06	
EPA 9056	Fluoride	0.11	mg/L	0.10	06/01/23 09:06	
EPA 9056	Sulfate	29.7	mg/L	0.25	06/01/23 09:06	
EPA 6010	Calcium	120000	ug/L	1000	05/31/23 12:55	
EPA 6010	Iron	734	ug/L	100	05/31/23 12:55	
EPA 6010	Magnesium	25600	ug/L	1000	05/31/23 12:55	
EPA 6010	Silica	12300	ug/L	450	05/31/23 12:55	N2
EPA 6010	Sodium	4760	ug/L	1000	05/31/23 12:55	
EPA 6010	Magnesium, Dissolved	24000	ug/L	1000	05/31/23 00:58	
EPA 6020	Aluminum	308	ug/L	10.0	06/01/23 03:44	
EPA 6020	Barium	57.9	ug/L	1.0	06/01/23 03:44	
EPA 6020	Boron	261	ug/L	25.0	05/31/23 18:37	N2
EPA 6020	Cobalt	4.9	ug/L	1.0	06/01/23 03:44	
EPA 6020	Manganese	2920	ug/L	25.0	05/31/23 18:34	
EPA 6020	Selenium	2.0	ug/L	1.0	06/01/23 03:44	
EPA 6020	Boron, Dissolved	251	ug/L	100	05/31/23 20:08	N2
EPA 6020	Manganese, Dissolved	1690	ug/L	25.0	05/31/23 20:05	
EPA 903.1	Radium-226	0.0833 ± 0.673 (1.32) C:NA T:93%	pCi/L		06/16/23 16:13	
EPA 904.0	Radium-228	0.459 ± 0.444 (0.921) C:87% T:85%	pCi/L		06/12/23 16:43	
Total Radium Calculation	Total Radium	0.542 ± 1.12 (2.24)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	345	mg/L	10.0	05/21/23 08:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	345	mg/L	10.0	05/21/23 08:04	
SM 2540C	Total Dissolved Solids	392	mg/L	10.0	05/24/23 08:28	
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	06/02/23 13:44	H3
EPA 353.2	Nitrogen, Nitrate	1.7	mg/L	0.10	05/19/23 12:03	
SM 5310C	Dissolved Organic Carbon	1.5	mg/L	1.0	06/01/23 22:27	
50345193009	**MW-20A**					
EPA 9056	Bromide	0.82	mg/L	0.050	06/01/23 09:42	
EPA 9056	Chloride	59.4	mg/L	2.5	06/01/23 10:00	
EPA 9056	Sulfate	691	mg/L	25.0	06/01/23 10:55	
EPA 6010	Calcium	338000	ug/L	2000	05/31/23 15:28	
EPA 6010	Iron	7380	ug/L	100	05/31/23 12:58	
EPA 6010	Magnesium	28500	ug/L	1000	05/31/23 12:58	

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345193009	**MW-20A**					
EPA 6010	Potassium	6110	ug/L	1000	05/31/23 12:58	
EPA 6010	Silica	12600	ug/L	450	05/31/23 12:58	N2
EPA 6010	Sodium	27500	ug/L	1000	05/31/23 12:58	
EPA 6010	Iron, Dissolved	7360	ug/L	100	05/31/23 01:00	
EPA 6010	Magnesium, Dissolved	28100	ug/L	1000	05/31/23 01:00	
EPA 6010	Potassium, Dissolved	6380	ug/L	1000	05/31/23 01:00	
EPA 6020	Aluminum	13.0	ug/L	10.0	06/01/23 03:51	
EPA 6020	Arsenic	1.7	ug/L	1.0	06/01/23 03:51	
EPA 6020	Barium	29.9	ug/L	1.0	06/01/23 03:51	
EPA 6020	Boron	10900	ug/L	1000	05/31/23 18:27	N2
EPA 6020	Manganese	1250	ug/L	10.0	06/01/23 03:48	
EPA 6020	Molybdenum	366	ug/L	100	06/01/23 03:48	
EPA 6020	Boron, Dissolved	11400	ug/L	4000	05/31/23 19:58	N2
EPA 6020	Manganese, Dissolved	1300	ug/L	10.0	06/01/23 05:07	
EPA 6020	Molybdenum, Dissolved	414	ug/L	100	06/01/23 05:07	
EPA 903.1	Radium-226	0.597 ± 0.606 (0.917) C:NA T:91%	pCi/L		06/16/23 16:13	
EPA 904.0	Radium-228	0.552 ± 0.397 (0.772) C:85% T:80%	pCi/L		06/12/23 16:43	
Total Radium Calculation	Total Radium	1.15 ± 1.00 (1.69)	pCi/L		06/16/23 18:10	
SM 2320B	Alkalinity, Total as CaCO3	226	mg/L	10.0	05/21/23 08:04	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	226	mg/L	10.0	05/21/23 08:04	
SM 2540C	Total Dissolved Solids	1390	mg/L	20.0	05/24/23 08:29	
SM 4500-H+B	pH at 25 Degrees C	7.8	Std. Units	0.10	06/02/23 13:45	H3
SM 4500-S2-D	Sulfide	0.078J	mg/L	0.10	05/18/23 16:01	
HACH 8146	Iron, Ferrous	3.1	mg/L	1.0	05/19/23 14:11	H3,N2
EPA 365.1	Phosphate as P04	0.50	mg/L	0.15	05/31/23 09:06	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	05/27/23 01:06	
SM 5310C	Dissolved Organic Carbon	1.7	mg/L	1.0	06/01/23 22:38	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19B **Lab ID: 50345193001** Collected: 05/17/23 09:50 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.056**	mg/L	0.050	0.0090	1		06/01/23 03:58	24959-67-9	
Chloride	**9.7**	mg/L	0.25	0.067	1		06/01/23 03:58	16887-00-6	
Fluoride	**0.13**	mg/L	0.10	0.017	1		06/01/23 03:58	16984-48-8	
Sulfate	**43.3**	mg/L	0.25	0.085	1		06/01/23 03:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**107000**	ug/L	1000	163	1	05/30/23 15:08	05/31/23 13:02	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 11:57	7440-47-3	
Iron	**633**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 11:57	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 11:57	7439-93-2	
Magnesium	**21800**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 11:57	7439-95-4	
Potassium	**2850**	ug/L	1000	281	1	05/30/23 15:08	05/31/23 11:57	7440-09-7	
Silica	**10500**	ug/L	450		1	05/30/23 15:08	05/31/23 11:57	7631-86-9	N2
Sodium	**7630**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 11:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:39	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:39	7439-93-2	
Magnesium, Dissolved	**21000**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:39	7439-95-4	
Potassium, Dissolved	**2670**	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:39	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**29.3**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 02:58	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 02:58	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 02:58	7440-38-2	
Barium	**63.7**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 02:58	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 02:58	7440-41-7	
Boron	**389**	ug/L	50.0	10.4	10	05/30/23 07:20	05/31/23 17:44	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 02:58	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 02:58	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 02:58	7439-92-1	
Manganese	**10**	ug/L	1.0	0.065	1	05/30/23 07:20	06/01/23 02:58	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	05/30/23 07:20	06/01/23 02:58	7439-98-7	
Selenium	**2.1**	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 02:58	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 02:58	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 04:17	7429-90-5	
Boron, Dissolved	**364**	ug/L	200	10.4	10	05/30/23 07:25	05/31/23 19:14	7440-42-8	N2
Manganese, Dissolved	**2.5**	ug/L	1.0	0.065	1	05/30/23 07:25	06/01/23 04:17	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19B **Lab ID: 50345193001** Collected: 05/17/23 09:50 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 04:17	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/30/23 08:54	05/30/23 17:36	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**285**	mg/L	10.0	10.0	1		05/19/23 02:08		
Alkalinity,Bicarbonate (CaCO3)	**285**	mg/L	10.0	10.0	1		05/19/23 02:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/19/23 02:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**363**	mg/L	10.0	10.0	1		05/24/23 08:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.6**	Std. Units	0.10	0.10	1		06/02/23 13:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	**0.088J**	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/19/23 14:06	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**6.0**	mg/L	0.20	0.022	2		05/18/23 23:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.20	0.0080	2		05/18/23 23:08	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/26/23 11:30	05/31/23 09:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/26/23 21:10	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.4**	mg/L	1.0	0.24	1		06/01/23 21:06		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19I **Lab ID: 50345193002** Collected: 05/17/23 11:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.096**	mg/L	0.050	0.0090	1		06/01/23 04:34	24959-67-9	
Chloride	**12.4**	mg/L	0.25	0.067	1		06/01/23 04:34	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	0.017	1		06/01/23 04:34	16984-48-8	
Sulfate	**52.2**	mg/L	2.5	0.85	10		06/01/23 04:52	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**109000**	ug/L	1000	163	1	05/30/23 15:08	05/31/23 13:04	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:00	7440-47-3	
Iron	ND	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 13:04	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:00	7439-93-2	
Magnesium	**25000**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:00	7439-95-4	
Potassium	ND	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:00	7440-09-7	
Silica	**9370**	ug/L	450		1	05/30/23 15:08	05/31/23 12:00	7631-86-9	N2
Sodium	**8080**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:41	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:41	7439-93-2	
Magnesium, Dissolved	**23700**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:41	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:41	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:02	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:02	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:02	7440-38-2	
Barium	**57.6**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:02	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:02	7440-41-7	
Boron	**710**	ug/L	50.0	10.4	10	05/30/23 07:20	05/31/23 17:50	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:02	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:02	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:02	7439-92-1	
Manganese	**1860**	ug/L	20.0	1.3	20	05/30/23 07:20	05/31/23 17:47	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	05/30/23 07:20	06/01/23 03:02	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:02	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 04:21	7429-90-5	
Boron, Dissolved	**655**	ug/L	200	10.4	10	05/30/23 07:25	05/31/23 19:21	7440-42-8	N2
Manganese, Dissolved	**1770**	ug/L	20.0	1.3	20	05/30/23 07:25	05/31/23 19:18	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19I **Lab ID: 50345193002** Collected: 05/17/23 11:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 04:21	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/30/23 08:54	05/30/23 17:39	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**307**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Bicarbonate (CaCO3)	**307**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**371**	mg/L	10.0	10.0	1		05/24/23 08:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.10	1		06/02/23 13:40		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/19/23 14:08	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	0.011	1		05/19/23 09:40	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 09:40	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/26/23 11:30	05/31/23 09:01		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/26/23 21:36	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.7**	mg/L	1.0	0.24	1		06/01/23 21:17		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19A **Lab ID: 50345193003** Collected: 05/17/23 12:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.77**	mg/L	0.050	0.0090	1		06/01/23 05:46	24959-67-9	
Chloride	**122**	mg/L	2.5	0.67	10		06/01/23 06:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/01/23 05:46	16984-48-8	
Sulfate	**1290**	mg/L	25.0	8.5	100		06/01/23 06:22	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**648000**	ug/L	5000	815	5	05/30/23 15:08	05/31/23 13:07	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:02	7440-47-3	
Iron	**10300**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 12:02	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:02	7439-93-2	
Magnesium	**32700**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:02	7439-95-4	
Potassium	**14100**	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:02	7440-09-7	
Silica	**12800**	ug/L	450		1	05/30/23 15:08	05/31/23 12:02	7631-86-9	N2
Sodium	**48400**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:02	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**9420**	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:48	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:48	7439-93-2	
Magnesium, Dissolved	**31300**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:48	7439-95-4	
Potassium, Dissolved	**13200**	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:48	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**79.5**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:08	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:08	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:08	7440-38-2	
Barium	**33.8**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:08	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:08	7440-41-7	
Boron	**24900**	ug/L	2500	520	500	05/30/23 07:20	05/31/23 18:00	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:08	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:08	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:08	7439-92-1	
Manganese	**1990**	ug/L	20.0	1.3	20	05/30/23 07:20	06/01/23 03:05	7439-96-5	
Molybdenum	**747**	ug/L	200	0.96	20	05/30/23 07:20	06/01/23 03:05	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:08	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:08	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 04:27	7429-90-5	
Boron, Dissolved	**22900**	ug/L	10000	520	500	05/30/23 07:25	05/31/23 19:31	7440-42-8	N2
Manganese, Dissolved	**1930**	ug/L	20.0	1.3	20	05/30/23 07:25	06/01/23 04:24	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19A **Lab ID: 50345193003** Collected: 05/17/23 12:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	**706**	ug/L	200	0.96	20	05/30/23 07:25	06/01/23 04:24	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/30/23 08:54	05/30/23 17:41	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**111**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Bicarbonate (CaCO3)	**111**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**2420**	mg/L	40.0	40.0	1		05/24/23 08:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		06/02/23 13:40		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**3.5**	mg/L	1.0	0.18	5		05/19/23 14:09	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/19/23 10:01	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 10:01	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.31**	mg/L	0.15	0.15	1	05/26/23 11:30	05/31/23 09:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.8**	mg/L	1.0	0.24	1		05/26/23 21:55	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.0**	mg/L	1.0	0.24	1		06/01/23 21:29		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20B **Lab ID: 50345193004** Collected: 05/17/23 15:00 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.067**	mg/L	0.050	0.0090	1		06/01/23 05:10	24959-67-9	
Chloride	**12.9**	mg/L	2.5	0.67	10		06/01/23 05:28	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/01/23 05:10	16984-48-8	
Sulfate	**61.1**	mg/L	2.5	0.85	10		06/01/23 05:28	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**174000**	ug/L	1000	163	1	05/30/23 15:08	05/31/23 13:09	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:04	7440-47-3	
Iron	**172**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 12:04	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:04	7439-93-2	
Magnesium	**28300**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:04	7439-95-4	
Potassium	**1060**	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:04	7440-09-7	
Silica	**14000**	ug/L	450		1	05/30/23 15:08	05/31/23 12:04	7631-86-9	N2
Sodium	**13100**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:04	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:50	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:50	7439-93-2	
Magnesium, Dissolved	**25200**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:50	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:50	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**103**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:18	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:18	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:18	7440-38-2	
Barium	**102**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:18	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:18	7440-41-7	
Boron	**469**	ug/L	50.0	10.4	10	05/30/23 07:20	05/31/23 18:04	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:18	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:18	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:18	7439-92-1	
Manganese	**14.4**	ug/L	1.0	0.065	1	05/30/23 07:20	06/01/23 03:18	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	05/30/23 07:20	06/01/23 03:18	7439-98-7	
Selenium	**8.5**	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:18	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:18	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 04:37	7429-90-5	
Boron, Dissolved	**441**	ug/L	200	10.4	10	05/30/23 07:25	05/31/23 19:35	7440-42-8	N2
Manganese, Dissolved	ND	ug/L	1.0	0.065	1	05/30/23 07:25	06/01/23 04:37	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20B **Lab ID: 50345193004** Collected: 05/17/23 15:00 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 04:37	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/30/23 08:54	05/30/23 17:44	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**446**	mg/L	10.0	10.0	1		05/21/23 08:53		
Alkalinity,Bicarbonate (CaCO3)	**446**	mg/L	10.0	10.0	1		05/21/23 08:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**578**	mg/L	10.0	10.0	1		05/24/23 08:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		06/02/23 13:41		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/19/23 14:09	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**4.7**	mg/L	0.10	0.011	1		05/19/23 11:36	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 11:36	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	0.15	1	05/26/23 11:30	05/31/23 09:02		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.5**	mg/L	1.0	0.24	1		05/26/23 22:21	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.1**	mg/L	1.0	0.24	1		06/01/23 21:40		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: DUP 5 **Lab ID: 50345193007** Collected: 05/17/23 15:00 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.072**	mg/L	0.050	0.0090	1		06/01/23 08:29	24959-67-9	
Chloride	**12.8**	mg/L	2.5	0.67	10		06/01/23 08:48	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/01/23 08:29	16984-48-8	
Sulfate	**62.0**	mg/L	2.5	0.85	10		06/01/23 08:48	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**174000**	ug/L	1000	163	1	05/30/23 15:08	05/31/23 12:53	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:53	7440-47-3	
Iron	**153**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 12:53	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:53	7439-93-2	
Magnesium	**26000**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:53	7439-95-4	
Potassium	**1050**	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:53	7440-09-7	
Silica	**12700**	ug/L	450		1	05/30/23 15:08	05/31/23 12:53	7631-86-9	N2
Sodium	**12200**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:53	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:56	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:56	7439-93-2	
Magnesium, Dissolved	**25700**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:56	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:56	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**133**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:41	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:41	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:41	7440-38-2	
Barium	**103**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:41	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:41	7440-41-7	
Boron	**453**	ug/L	50.0	10.4	10	05/30/23 07:20	05/31/23 18:31	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:41	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:41	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:41	7439-92-1	
Manganese	**15.9**	ug/L	1.0	0.065	1	05/30/23 07:20	06/01/23 03:41	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	05/30/23 07:20	06/01/23 03:41	7439-98-7	
Selenium	**8.5**	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:41	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:41	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 05:00	7429-90-5	
Boron, Dissolved	**447**	ug/L	200	10.4	10	05/30/23 07:25	05/31/23 20:01	7440-42-8	N2
Manganese, Dissolved	ND	ug/L	1.0	0.065	1	05/30/23 07:25	06/01/23 05:00	7439-96-5	

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7726 Moller Road
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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: DUP 5 **Lab ID: 50345193007** Collected: 05/17/23 15:00 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 05:00	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/30/23 08:54	05/30/23 17:58	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**442**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Bicarbonate (CaCO3)	**442**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**580**	mg/L	10.0	10.0	1		05/24/23 08:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		06/02/23 13:42		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/19/23 14:11	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**4.6**	mg/L	0.10	0.011	1		05/19/23 13:23	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 13:23	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	0.15	1	05/26/23 11:30	05/31/23 09:05		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.4**	mg/L	1.0	0.24	1		05/26/23 23:31	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.3**	mg/L	1.0	0.24	1		06/01/23 22:11		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20I **Lab ID: 50345193008** Collected: 05/17/23 16:50 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		06/01/23 09:06	24959-67-9	
Chloride	**6.8**	mg/L	0.25	0.067	1		06/01/23 09:06	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.017	1		06/01/23 09:06	16984-48-8	
Sulfate	**29.7**	mg/L	0.25	0.085	1		06/01/23 09:06	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**120000**	ug/L	1000	163	1	05/30/23 15:08	05/31/23 12:55	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:55	7440-47-3	
Iron	**734**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 12:55	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:55	7439-93-2	
Magnesium	**25600**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:55	7439-95-4	
Potassium	ND	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:55	7440-09-7	
Silica	**12300**	ug/L	450		1	05/30/23 15:08	05/31/23 12:55	7631-86-9	N2
Sodium	**4760**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:55	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	ND	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 00:58	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 00:58	7439-93-2	
Magnesium, Dissolved	**24000**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 00:58	7439-95-4	
Potassium, Dissolved	ND	ug/L	1000	281	1	05/30/23 08:11	05/31/23 00:58	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**308**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:44	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:44	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:44	7440-38-2	
Barium	**57.9**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:44	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:44	7440-41-7	
Boron	**261**	ug/L	25.0	5.2	5	05/30/23 07:20	05/31/23 18:37	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:44	7440-43-9	
Cobalt	**4.9**	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:44	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:44	7439-92-1	
Manganese	**2920**	ug/L	25.0	1.6	25	05/30/23 07:20	05/31/23 18:34	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	05/30/23 07:20	06/01/23 03:44	7439-98-7	
Selenium	**2.0**	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:44	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:44	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 05:03	7429-90-5	
Boron, Dissolved	**251**	ug/L	100	5.2	5	05/30/23 07:25	05/31/23 20:08	7440-42-8	N2
Manganese, Dissolved	**1690**	ug/L	25.0	1.6	25	05/30/23 07:25	05/31/23 20:05	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20I **Lab ID: 50345193008** Collected: 05/17/23 16:50 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 05:03	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/30/23 17:25	05/31/23 09:46	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**345**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Bicarbonate (CaCO3)	**345**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**392**	mg/L	10.0	10.0	1		05/24/23 08:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.10	1		06/02/23 13:44		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/19/23 14:11	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	**1.7**	mg/L	0.10	0.011	1		05/19/23 12:03	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 12:03	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/26/23 11:30	05/31/23 09:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/27/23 00:41	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.5**	mg/L	1.0	0.24	1		06/01/23 22:27		

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20A **Lab ID: 50345193009** Collected: 05/17/23 18:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.82**	mg/L	0.050	0.0090	1		06/01/23 09:42	24959-67-9	
Chloride	**59.4**	mg/L	2.5	0.67	10		06/01/23 10:00	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/01/23 09:42	16984-48-8	
Sulfate	**691**	mg/L	25.0	8.5	100		06/01/23 10:55	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**338000**	ug/L	2000	326	2	05/30/23 15:08	05/31/23 15:28	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	05/30/23 15:08	05/31/23 12:58	7440-47-3	
Iron	**7380**	ug/L	100	48.8	1	05/30/23 15:08	05/31/23 12:58	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	05/30/23 15:08	05/31/23 12:58	7439-93-2	
Magnesium	**28500**	ug/L	1000	71.8	1	05/30/23 15:08	05/31/23 12:58	7439-95-4	
Potassium	**6110**	ug/L	1000	281	1	05/30/23 15:08	05/31/23 12:58	7440-09-7	
Silica	**12600**	ug/L	450		1	05/30/23 15:08	05/31/23 12:58	7631-86-9	N2
Sodium	**27500**	ug/L	1000	214	1	05/30/23 15:08	05/31/23 12:58	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**7360**	ug/L	100	48.8	1	05/30/23 08:11	05/31/23 01:00	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	05/30/23 08:11	05/31/23 01:00	7439-93-2	
Magnesium, Dissolved	**28100**	ug/L	1000	71.8	1	05/30/23 08:11	05/31/23 01:00	7439-95-4	
Potassium, Dissolved	**6380**	ug/L	1000	281	1	05/30/23 08:11	05/31/23 01:00	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**13.0**	ug/L	10.0	1.7	1	05/30/23 07:20	06/01/23 03:51	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/30/23 07:20	06/01/23 03:51	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	0.053	1	05/30/23 07:20	06/01/23 03:51	7440-38-2	
Barium	**29.9**	ug/L	1.0	0.051	1	05/30/23 07:20	06/01/23 03:51	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/30/23 07:20	06/01/23 03:51	7440-41-7	
Boron	**10900**	ug/L	1000	208	200	05/30/23 07:20	05/31/23 18:27	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/30/23 07:20	06/01/23 03:51	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/30/23 07:20	06/01/23 03:51	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/30/23 07:20	06/01/23 03:51	7439-92-1	
Manganese	**1250**	ug/L	10.0	0.65	10	05/30/23 07:20	06/01/23 03:48	7439-96-5	
Molybdenum	**366**	ug/L	100	0.48	10	05/30/23 07:20	06/01/23 03:48	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/30/23 07:20	06/01/23 03:51	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/30/23 07:20	06/01/23 03:51	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 05:10	7429-90-5	
Boron, Dissolved	**11400**	ug/L	4000	208	200	05/30/23 07:25	05/31/23 19:58	7440-42-8	N2
Manganese, Dissolved	**1300**	ug/L	10.0	0.65	10	05/30/23 07:25	06/01/23 05:07	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20A **Lab ID: 50345193009** Collected: 05/17/23 18:20 Received: 05/18/23 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	**414**	ug/L	100	0.48	10	05/30/23 07:25	06/01/23 05:07	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.12	1	05/30/23 17:25	05/31/23 09:49	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**226**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Bicarbonate (CaCO3)	**226**	mg/L	10.0	10.0	1		05/21/23 08:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		05/21/23 08:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1390**	mg/L	20.0	20.0	1		05/24/23 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.8**	Std. Units	0.10	0.10	1		06/02/23 13:45		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	**0.078J**	mg/L	0.10	0.025	1		05/18/23 16:01	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**3.1**	mg/L	1.0	0.18	5		05/19/23 14:11	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		05/19/23 12:09	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/19/23 12:09	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.50**	mg/L	0.15	0.15	1	05/26/23 11:30	05/31/23 09:06		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**1.2**	mg/L	1.0	0.24	1		05/27/23 01:06	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.7**	mg/L	1.0	0.24	1		06/01/23 22:38		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735156
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3373629 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	06/01/23 17:11	
Chloride	mg/L	ND	0.25	0.067	06/01/23 17:11	
Fluoride	mg/L	ND	0.10	0.017	06/01/23 17:11	
Sulfate	mg/L	ND	0.25	0.085	06/01/23 17:11	

LABORATORY CONTROL SAMPLE: 3373630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.93	93	80-120	
Chloride	mg/L	2.5	2.4	96	80-120	
Fluoride	mg/L	1	0.87	87	80-120	
Sulfate	mg/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3373631 3373632

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.067	1	1	1.0	0.99	94	92	80-120	2	15	
Chloride	mg/L	12.9	25	25	37.0	37.1	97	97	80-120	0	15	
Fluoride	mg/L	ND	1	1	1.0	1.0	98	96	80-120	2	15	
Sulfate	mg/L	61.1	50	50	106	108	89	94	80-120	2	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735974
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007

METHOD BLANK: 3377169 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	05/30/23 17:02	

LABORATORY CONTROL SAMPLE: 3377170

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: 3377171 3377172

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.0	5.1	99	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 736364
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193008, 50345193009

METHOD BLANK: 3379119 Matrix: Water
Associated Lab Samples: 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	05/31/23 09:41	

LABORATORY CONTROL SAMPLE: 3379120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.7	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3379121 3379122

Parameter	Units	50345278010 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	5.6	5.5	111	110	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735687
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3375767 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	163	05/31/23 11:24	
Chromium	ug/L	ND	10.0	0.97	05/31/23 11:24	
Iron	ug/L	ND	100	48.8	05/31/23 11:24	
Lithium	ug/L	ND	20.0	6.2	05/31/23 11:24	
Magnesium	ug/L	ND	1000	71.8	05/31/23 11:24	
Potassium	ug/L	ND	1000	281	05/31/23 11:24	
Silica	ug/L	ND	450		05/31/23 11:24	N2
Sodium	ug/L	ND	1000	214	05/31/23 11:24	

LABORATORY CONTROL SAMPLE: 3375768

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	5200	104	80-120	
Chromium	ug/L	1000	1010	101	80-120	
Iron	ug/L	2500	2810	112	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	5000	5190	104	80-120	
Potassium	ug/L	5000	4940	99	80-120	
Silica	ug/L	5350	5000	93	80-120	N2
Sodium	ug/L	5000	4970	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375769 3375770

Parameter	Units	50345152003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	170000	5000	5000	172000	169000	28	-26	75-125	2	20	P6
Chromium	ug/L	<10.0	1000	1000	1000	1000	100	100	75-125	0	20	
Iron	ug/L	31800	2500	2500	33500	33200	66	54	75-125	1	20	P6
Lithium	ug/L	58.4	1000	1000	1160	1160	110	110	75-125	0	20	
Magnesium	ug/L	140000	5000	5000	141000	140000	4	-20	75-125	1	20	P6
Potassium	ug/L	79700	5000	5000	83000	82600	66	59	75-125	0	20	P6
Silica	ug/L	29700	5350	5350	34300	34200	87	85	75-125	0	20	N2
Sodium	ug/L	304000	5000	5000	300000	294000	-80	-204	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375771 3375772

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	174000	5000	5000	174000	175000	6	38	75-125	1	20	P6
Chromium	ug/L	ND	1000	1000	1060	1080	106	108	75-125	2	20	
Iron	ug/L	172	2500	2500	3030	3070	114	116	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1140	1150	114	115	75-125	1	20	
Magnesium	ug/L	28300	5000	5000	32100	32600	76	85	75-125	1	20	
Potassium	ug/L	1060	5000	5000	6610	6740	111	114	75-125	2	20	
Silica	ug/L	14000	5350	5350	20000	20300	114	118	75-125	1	20	N2
Sodium	ug/L	13100	5000	5000	18000	18100	98	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735702
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3375825 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	05/30/23 23:49	
Lithium, Dissolved	ug/L	ND	20.0	6.2	05/30/23 23:49	
Magnesium, Dissolved	ug/L	ND	1000	71.8	05/30/23 23:49	
Potassium, Dissolved	ug/L	ND	1000	281	05/30/23 23:49	

LABORATORY CONTROL SAMPLE: 3375826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	2500	2650	106	80-120	
Lithium, Dissolved	ug/L	1000	988	99	80-120	
Magnesium, Dissolved	ug/L	5000	4810	96	80-120	
Potassium, Dissolved	ug/L	5000	4760	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375827 3375828

Parameter	Units	50344402001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2850	2650	114	106	75-125	7	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1030	1010	102	101	75-125	2	20	
Magnesium, Dissolved	ug/L	9.0 mg/L	5000	5000	14000	13600	101	93	75-125	3	20	
Potassium, Dissolved	ug/L	1.1 mg/L	5000	5000	6120	6030	101	99	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375829 3375830

Parameter	Units	50345068001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	6040	2500	2500	8540	8400	100	94	75-125	2	20	
Lithium, Dissolved	ug/L	61.3	1000	1000	1110	1100	105	103	75-125	2	20	
Magnesium, Dissolved	ug/L	42400	5000	5000	46800	45200	88	57	75-125	3	20	P6
Potassium, Dissolved	ug/L	12700	5000	5000	17900	17300	103	91	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375831 3375832

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	ND	2500	2500	2720	2720	107	107	75-125	0	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	75-125	1	20	
Magnesium, Dissolved	ug/L	25200	5000	5000	31100	30700	117	110	75-125	1	20	
Potassium, Dissolved	ug/L	ND	5000	5000	6010	6070	105	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 736321
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3378976 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	05/31/23 17:37	
Antimony	ug/L	ND	1.0	0.036	05/31/23 17:37	
Arsenic	ug/L	ND	1.0	0.053	05/31/23 17:37	
Barium	ug/L	ND	1.0	0.051	05/31/23 17:37	
Beryllium	ug/L	ND	0.20	0.028	05/31/23 17:37	
Boron	ug/L	ND	5.0	1.0	05/31/23 17:37	N2
Cadmium	ug/L	ND	2.0	0.0090	05/31/23 17:37	
Cobalt	ug/L	ND	1.0	0.032	05/31/23 17:37	
Lead	ug/L	ND	10.0	0.034	05/31/23 17:37	
Manganese	ug/L	ND	1.0	0.065	05/31/23 17:37	
Molybdenum	ug/L	ND	10.0	0.048	05/31/23 17:37	
Selenium	ug/L	ND	1.0	0.23	05/31/23 17:37	
Thallium	ug/L	ND	1.0	0.033	05/31/23 17:37	

LABORATORY CONTROL SAMPLE: 3378977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	392	98	80-120	
Antimony	ug/L	40	40.7	102	80-120	
Arsenic	ug/L	40	38.4	96	80-120	
Barium	ug/L	40	39.0	97	80-120	
Beryllium	ug/L	40	41.7	104	80-120	
Boron	ug/L	40	43.4	108	80-120	N2
Cadmium	ug/L	40	39.5	99	80-120	
Cobalt	ug/L	40	40.8	102	80-120	
Lead	ug/L	40	41.0	102	80-120	
Manganese	ug/L	40	40.5	101	80-120	
Molybdenum	ug/L	40	40.8	102	80-120	
Selenium	ug/L	40	38.9	97	80-120	
Thallium	ug/L	40	40.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3378978 3378979

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	103	400	400	511	525	102	105	75-125	3	20	
Antimony	ug/L	ND	40	40	40.9	41.3	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3378978 3378979

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	40	40	38.4	38.7	95	96	75-125	1	20	
Barium	ug/L	102	40	40	142	142	100	101	75-125	0	20	
Beryllium	ug/L	ND	40	40	37.8	38.2	95	95	75-125	1	20	
Boron	ug/L	469	40	40	505	504	90	86	75-125	0	20	N2
Cadmium	ug/L	ND	40	40	38.1	38.6	95	96	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.7	39.2	96	97	75-125	1	20	
Lead	ug/L	ND	40	40	41.0	41.2	102	103	75-125	0	20	
Manganese	ug/L	14.4	40	40	53.7	54.5	98	100	75-125	1	20	
Molybdenum	ug/L	ND	40	40	41.6	41.2	104	103	75-125	1	20	
Selenium	ug/L	8.5	40	40	46.4	47.8	95	98	75-125	3	20	
Thallium	ug/L	ND	40	40	41.6	41.6	104	104	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3378980 3378981

Parameter	Units	50345278010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	13.1	400	400	398	399	96	96	75-125	0	20	
Antimony	ug/L	ND	40	40	41.6	41.8	104	104	75-125	1	20	
Arsenic	ug/L	1.5	40	40	39.3	39.3	95	95	75-125	0	20	
Barium	ug/L	73.3	40	40	112	113	98	100	75-125	1	20	
Beryllium	ug/L	ND	40	40	38.7	38.7	97	97	75-125	0	20	
Boron	ug/L	266	40	40	276	264	25	-7	75-125	5	20	CH,E, N2,P6
Cadmium	ug/L	ND	40	40	38.7	38.9	97	97	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.0	38.1	95	95	75-125	0	20	
Lead	ug/L	ND	40	40	41.2	41.1	103	103	75-125	0	20	
Manganese	ug/L	119	40	40	156	157	92	95	75-125	1	20	
Molybdenum	ug/L	2.0	40	40	42.8	43.2	102	103	75-125	1	20	
Selenium	ug/L	ND	40	40	38.0	37.9	95	94	75-125	0	20	
Thallium	ug/L	ND	40	40	42.1	41.7	105	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 736319
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3378968 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	1.7	05/31/23 19:08	
Boron, Dissolved	ug/L	ND	20.0	1.0	05/31/23 19:08	N2
Manganese, Dissolved	ug/L	ND	1.0	0.065	05/31/23 19:08	
Molybdenum, Dissolved	ug/L	ND	10.0	0.048	05/31/23 19:08	

LABORATORY CONTROL SAMPLE: 3378969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	397	99	80-120	
Boron, Dissolved	ug/L	40	40.0	100	80-120	N2
Manganese, Dissolved	ug/L	40	40.3	101	80-120	
Molybdenum, Dissolved	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3378970 3378971

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	386	386	96	96	75-125	0	20	
Boron, Dissolved	ug/L	441	40	40	488	480	117	96	75-125	2	20	N2
Manganese, Dissolved	ug/L	ND	40	40	40.6	40.4	100	99	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	40	40	41.4	41.5	103	103	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734613
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001

METHOD BLANK: 3371348 Matrix: Water
Associated Lab Samples: 50345193001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/19/23 02:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/19/23 02:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/19/23 02:08	

LABORATORY CONTROL SAMPLE: 3371349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	90-110	

SAMPLE DUPLICATE: 3371350

Parameter	Units	50345174001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	221	224	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	221	224	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734923
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193002, 50345193003, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3372889 Matrix: Water
Associated Lab Samples: 50345193002, 50345193003, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/21/23 08:04	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/21/23 08:04	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/21/23 08:04	

LABORATORY CONTROL SAMPLE: 3372890

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: 3372891

Parameter	Units	50345115001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1180	1200	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	1180	1200	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3372892

Parameter	Units	50345115005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	913	939	3	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	913	939	3	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734926
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345193004

METHOD BLANK: 3372900 Matrix: Water
Associated Lab Samples: 50345193004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/21/23 08:53	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/21/23 08:53	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/21/23 08:53	

LABORATORY CONTROL SAMPLE: 3372901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.9	104	90-110	

SAMPLE DUPLICATE: 3372902

Parameter	Units	50345193004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	446	457	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	446	457	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3372903

Parameter	Units	50345267010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	347	355	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	347	355	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735457
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3374794 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/24/23 08:21	

LABORATORY CONTROL SAMPLE: 3374795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	282	94	80-120	

SAMPLE DUPLICATE: 3374796

Parameter	Units	50345179005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	443	452	2	10	

SAMPLE DUPLICATE: 3374797

Parameter	Units	50345193004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	578	562	3	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 736697
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: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

SAMPLE DUPLICATE: 3380090

Parameter	Units	50345179004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

SAMPLE DUPLICATE: 3380091

Parameter	Units	50345193004 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: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734465
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: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3370695 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/18/23 16:01	

LABORATORY CONTROL SAMPLE: 3370696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370697 3370698

Parameter	Units	50345105004 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	0.10	0.098J	21	20	90-110		20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370699 3370700

Parameter	Units	50345115005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.16J	0.5	0.5	0.081J	0.091J	-17	-15	90-110		20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370702 3370703

Parameter	Units	50345193004 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	0.40	0.40	76	76	90-110	0	20	M3

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734752
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3371875 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/19/23 14:03	H3,N2

LABORATORY CONTROL SAMPLE: 3371876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371877 3371878

Parameter	Units	50345068001 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 & MATRIX SPIKE DUPLICATE: 3371879 3371880

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	ND	1	1	1.1	1.1	107	107	90-110	0	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734600
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: 50345193001

METHOD BLANK: 3371322 Matrix: Water
Associated Lab Samples: 50345193001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/18/23 22:08	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/18/23 22:08	

LABORATORY CONTROL SAMPLE: 3371323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.98	98	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371324 3371325

Parameter	Units	50345156004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.97	0.97	97	97	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	1.0	99	99	90-110	0	20	

MATRIX SPIKE SAMPLE: 3371326

Parameter	Units	50345173003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.22	1	1.2	103	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	100	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734651
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: 50345193002, 50345193003

METHOD BLANK: 3371461 Matrix: Water
Associated Lab Samples: 50345193002, 50345193003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/19/23 09:37	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/19/23 09:37	

LABORATORY CONTROL SAMPLE: 3371462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371463 3371464

Parameter	Units	50345183003 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	3.7	2	2	5.6	5.5	93	93	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	2	2	2.0	2.0	102	102	90-110	0	20	

MATRIX SPIKE SAMPLE: 3371465

Parameter	Units	50345174003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.0	100	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.0	102	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 734652
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: 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3371470 Matrix: Water
Associated Lab Samples: 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/19/23 11:24	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/19/23 11:24	

LABORATORY CONTROL SAMPLE: 3371471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371472 3371473

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	4.7	2	2	6.5	6.5	89	89	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	2	2	2.1	2.1	103	103	90-110	0	20	

MATRIX SPIKE SAMPLE: 3371474

Parameter	Units	50345193007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	4.6	2	6.5	97	90-110	
Nitrogen, Nitrite	mg/L	ND	2	2.0	102	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 736034
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: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3377524 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	05/31/23 08:59	

LABORATORY CONTROL SAMPLE: 3377525

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3377526 3377527

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphate as P04	mg/L	ND			1.4	1.4				1		

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 735868
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3376537 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/26/23 15:39	

LABORATORY CONTROL SAMPLE: 3376538

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: 3376539 3376540

Parameter	Units	50345105004 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	23.4	10	10	33.5	33.1	101	97	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3376542 3376543

Parameter	Units	50345193004 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	1.5	10	10	11.2	11.3	97	98	80-120	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 737108
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

METHOD BLANK: 3381941 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193007, 50345193008, 50345193009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	06/01/23 19:49	

LABORATORY CONTROL SAMPLE: 3381942

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: 3381943 3381944

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.1	10	10	11.5	11.4	94	93	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3381945 3381946

Parameter	Units	50345278010 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	11.0	8.3	98	70	80-120	28	20	M0,R1

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19B **Lab ID: 50345193001** Collected: 05/17/23 09:50 Received: 05/18/23 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	**-0.0879 ± 0.401 (0.946) C:NA T:93%**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.210 ± 0.309 (0.666) C:92% T:80%**	pCi/L	06/12/23 16:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.210 ± 0.710 (1.61)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19I **Lab ID: 50345193002** Collected: 05/17/23 11:20 Received: 05/18/23 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.512 (1.08) C:NA T:91%**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.562 ± 0.361 (0.667) C:84% T:82%**	pCi/L	06/12/23 16:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.562 ± 0.873 (1.75)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-19A **Lab ID: 50345193003** Collected: 05/17/23 12:20 Received: 05/18/23 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	**0.173 ± 0.757 (1.44) C:NA T:100%**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.463 ± 0.344 (0.665) C:85% T:84%**	pCi/L	06/12/23 16:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.636 ± 1.10 (2.11)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20B **Lab ID: 50345193004** Collected: 05/17/23 15:00 Received: 05/18/23 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	**0.405 ± 0.531 (0.885) C:NA T:93%**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.439 ± 0.314 (0.599) C:89% T:88%**	pCi/L	06/12/23 16:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.844 ± 0.845 (1.48)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20B MS **Lab ID: 50345193005** Collected: 05/17/23 15:00 Received: 05/18/23 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	**82.22 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/16/23 16:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**74.14 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/12/23 16:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20B MSD **Lab ID: 50345193006** Collected: 05/17/23 15:00 Received: 05/18/23 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	**109.68 %REC 28.62RPD ± NA (NA) C:NA T:NA**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**52.91 %REC 33.42RPD ± NA(NA) C:NA T:NA**	pCi/L	06/12/23 16:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: DUP 5 **Lab ID: 50345193007** Collected: 05/17/23 15:00 Received: 05/18/23 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	**0.192 ± 0.704 (1.35) C:NA T:97%**	pCi/L	06/16/23 15:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.723 ± 0.466 (0.895) C:85% T:81%**	pCi/L	06/12/23 16:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.915 ± 1.17 (2.25)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20I **Lab ID: 50345193008** Collected: 05/17/23 16:50 Received: 05/18/23 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	**0.0833 ± 0.673 (1.32) C:NA T:93%**	pCi/L	06/16/23 16:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.459 ± 0.444 (0.921) C:87% T:85%**	pCi/L	06/12/23 16:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.542 ± 1.12 (2.24)**	pCi/L	06/16/23 18:10	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

Sample: MW-20A **Lab ID: 50345193009** Collected: 05/17/23 18:20 Received: 05/18/23 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	**0.597 ± 0.606 (0.917) C:NA T:91%**	pCi/L	06/16/23 16:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.552 ± 0.397 (0.772) C:85% T:80%**	pCi/L	06/12/23 16:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.15 ± 1.00 (1.69)**	pCi/L	06/16/23 18:10	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R3
Pace Project No.: 50345193

QC Batch: 592523
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: 50345193001, 50345193002, 50345193003, 50345193004, 50345193005, 50345193006, 50345193007, 50345193008, 50345193009

METHOD BLANK: 2879206 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193005, 50345193006, 50345193007, 50345193008, 50345193009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.261 ± 0.267 (0.542) C:82% T:84%	pCi/L	06/12/23 16:48	

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 P4R3
Pace Project No.: 50345193

QC Batch: 592521
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: 50345193001, 50345193002, 50345193003, 50345193004, 50345193005, 50345193006, 50345193007, 50345193008, 50345193009

METHOD BLANK: 2879205 Matrix: Water
Associated Lab Samples: 50345193001, 50345193002, 50345193003, 50345193004, 50345193005, 50345193006, 50345193007, 50345193008, 50345193009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.340 (0.548) C:NA T:92%	pCi/L	06/16/23 15:59	

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QUALIFIERS

Project: Petersburg P4R3
Pace Project No.: 50345193

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.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50345193001	**MW-19B**	EPA 9056	735156		
50345193002	**MW-19I**	EPA 9056	735156		
50345193003	**MW-19A**	EPA 9056	735156		
50345193004	**MW-20B**	EPA 9056	735156		
50345193007	**DUP 5**	EPA 9056	735156		
50345193008	**MW-20I**	EPA 9056	735156		
50345193009	**MW-20A**	EPA 9056	735156		
50345193001	**MW-19B**	EPA 3010	735687	EPA 6010	736731
50345193002	**MW-19I**	EPA 3010	735687	EPA 6010	736731
50345193003	**MW-19A**	EPA 3010	735687	EPA 6010	736731
50345193004	**MW-20B**	EPA 3010	735687	EPA 6010	736731
50345193007	**DUP 5**	EPA 3010	735687	EPA 6010	736731
50345193008	**MW-20I**	EPA 3010	735687	EPA 6010	736731
50345193009	**MW-20A**	EPA 3010	735687	EPA 6010	736731
50345193001	**MW-19B**	EPA 3010	735702	EPA 6010	736593
50345193002	**MW-19I**	EPA 3010	735702	EPA 6010	736593
50345193003	**MW-19A**	EPA 3010	735702	EPA 6010	736593
50345193004	**MW-20B**	EPA 3010	735702	EPA 6010	736593
50345193007	**DUP 5**	EPA 3010	735702	EPA 6010	736593
50345193008	**MW-20I**	EPA 3010	735702	EPA 6010	736593
50345193009	**MW-20A**	EPA 3010	735702	EPA 6010	736593
50345193001	**MW-19B**	EPA 200.2	736321	EPA 6020	736487
50345193002	**MW-19I**	EPA 200.2	736321	EPA 6020	736487
50345193003	**MW-19A**	EPA 200.2	736321	EPA 6020	736487
50345193004	**MW-20B**	EPA 200.2	736321	EPA 6020	736487
50345193007	**DUP 5**	EPA 200.2	736321	EPA 6020	736487
50345193008	**MW-20I**	EPA 200.2	736321	EPA 6020	736487
50345193009	**MW-20A**	EPA 200.2	736321	EPA 6020	736487
50345193001	**MW-19B**	EPA 200.2	736319	EPA 6020	736484
50345193002	**MW-19I**	EPA 200.2	736319	EPA 6020	736484
50345193003	**MW-19A**	EPA 200.2	736319	EPA 6020	736484
50345193004	**MW-20B**	EPA 200.2	736319	EPA 6020	736484
50345193007	**DUP 5**	EPA 200.2	736319	EPA 6020	736484
50345193008	**MW-20I**	EPA 200.2	736319	EPA 6020	736484
50345193009	**MW-20A**	EPA 200.2	736319	EPA 6020	736484
50345193001	**MW-19B**	EPA 7470	735974	EPA 7470	736519
50345193002	**MW-19I**	EPA 7470	735974	EPA 7470	736519
50345193003	**MW-19A**	EPA 7470	735974	EPA 7470	736519
50345193004	**MW-20B**	EPA 7470	735974	EPA 7470	736519
50345193007	**DUP 5**	EPA 7470	735974	EPA 7470	736519
50345193008	**MW-20I**	EPA 7470	736364	EPA 7470	736608
50345193009	**MW-20A**	EPA 7470	736364	EPA 7470	736608
50345193001	**MW-19B**	EPA 903.1	592521		
50345193002	**MW-19I**	EPA 903.1	592521		
50345193003	**MW-19A**	EPA 903.1	592521		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50345193004	**MW-20B**	EPA 903.1	592521		
50345193005	**MW-20B MS**	EPA 903.1	592521		
50345193006	**MW-20B MSD**	EPA 903.1	592521		
50345193007	**DUP 5**	EPA 903.1	592521		
50345193008	**MW-20I**	EPA 903.1	592521		
50345193009	**MW-20A**	EPA 903.1	592521		
50345193001	**MW-19B**	EPA 904.0	592523		
50345193002	**MW-19I**	EPA 904.0	592523		
50345193003	**MW-19A**	EPA 904.0	592523		
50345193004	**MW-20B**	EPA 904.0	592523		
50345193005	**MW-20B MS**	EPA 904.0	592523		
50345193006	**MW-20B MSD**	EPA 904.0	592523		
50345193007	**DUP 5**	EPA 904.0	592523		
50345193008	**MW-20I**	EPA 904.0	592523		
50345193009	**MW-20A**	EPA 904.0	592523		
50345193001	**MW-19B**	Total Radium Calculation	595623		
50345193002	**MW-19I**	Total Radium Calculation	595623		
50345193003	**MW-19A**	Total Radium Calculation	595623		
50345193004	**MW-20B**	Total Radium Calculation	595623		
50345193007	**DUP 5**	Total Radium Calculation	595623		
50345193008	**MW-20I**	Total Radium Calculation	595623		
50345193009	**MW-20A**	Total Radium Calculation	595623		
50345193001	**MW-19B**	SM 2320B	734613		
50345193002	**MW-19I**	SM 2320B	734923		
50345193003	**MW-19A**	SM 2320B	734923		
50345193004	**MW-20B**	SM 2320B	734926		
50345193007	**DUP 5**	SM 2320B	734923		
50345193008	**MW-20I**	SM 2320B	734923		
50345193009	**MW-20A**	SM 2320B	734923		
50345193001	**MW-19B**	SM 2540C	735457		
50345193002	**MW-19I**	SM 2540C	735457		
50345193003	**MW-19A**	SM 2540C	735457		
50345193004	**MW-20B**	SM 2540C	735457		
50345193007	**DUP 5**	SM 2540C	735457		
50345193008	**MW-20I**	SM 2540C	735457		
50345193009	**MW-20A**	SM 2540C	735457		
50345193001	**MW-19B**	SM 4500-H+B	736697		
50345193002	**MW-19I**	SM 4500-H+B	736697		
50345193003	**MW-19A**	SM 4500-H+B	736697		
50345193004	**MW-20B**	SM 4500-H+B	736697		
50345193007	**DUP 5**	SM 4500-H+B	736697		
50345193008	**MW-20I**	SM 4500-H+B	736697		
50345193009	**MW-20A**	SM 4500-H+B	736697		
50345193001	**MW-19B**	SM 4500-S2-D	734465		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R3
Pace Project No.: 50345193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50345193002	**MW-19I**	SM 4500-S2-D	734465		
50345193003	**MW-19A**	SM 4500-S2-D	734465		
50345193004	**MW-20B**	SM 4500-S2-D	734465		
50345193007	**DUP 5**	SM 4500-S2-D	734465		
50345193008	**MW-20I**	SM 4500-S2-D	734465		
50345193009	**MW-20A**	SM 4500-S2-D	734465		
50345193001	**MW-19B**	HACH 8146	734752		
50345193002	**MW-19I**	HACH 8146	734752		
50345193003	**MW-19A**	HACH 8146	734752		
50345193004	**MW-20B**	HACH 8146	734752		
50345193007	**DUP 5**	HACH 8146	734752		
50345193008	**MW-20I**	HACH 8146	734752		
50345193009	**MW-20A**	HACH 8146	734752		
50345193001	**MW-19B**	EPA 353.2	734600		
50345193002	**MW-19I**	EPA 353.2	734651		
50345193003	**MW-19A**	EPA 353.2	734651		
50345193004	**MW-20B**	EPA 353.2	734652		
50345193007	**DUP 5**	EPA 353.2	734652		
50345193008	**MW-20I**	EPA 353.2	734652		
50345193009	**MW-20A**	EPA 353.2	734652		
50345193001	**MW-19B**	EPA 365.1	736034	EPA 365.1	736776
50345193002	**MW-19I**	EPA 365.1	736034	EPA 365.1	736776
50345193003	**MW-19A**	EPA 365.1	736034	EPA 365.1	736776
50345193004	**MW-20B**	EPA 365.1	736034	EPA 365.1	736776
50345193007	**DUP 5**	EPA 365.1	736034	EPA 365.1	736776
50345193008	**MW-20I**	EPA 365.1	736034	EPA 365.1	736776
50345193009	**MW-20A**	EPA 365.1	736034	EPA 365.1	736776
50345193001	**MW-19B**	SM 5310C	735868		
50345193002	**MW-19I**	SM 5310C	735868		
50345193003	**MW-19A**	SM 5310C	735868		
50345193004	**MW-20B**	SM 5310C	735868		
50345193007	**DUP 5**	SM 5310C	735868		
50345193008	**MW-20I**	SM 5310C	735868		
50345193009	**MW-20A**	SM 5310C	735868		
50345193001	**MW-19B**	SM 5310C	737108		
50345193002	**MW-19I**	SM 5310C	737108		
50345193003	**MW-19A**	SM 5310C	737108		
50345193004	**MW-20B**	SM 5310C	737108		
50345193007	**DUP 5**	SM 5310C	737108		
50345193008	**MW-20I**	SM 5310C	737108		
50345193009	**MW-20A**	SM 5310C	737108		

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CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields mu

WO# : 50345193

50345193

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 P4R3	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/45

Regulatory Agency	State / Location
	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + 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	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
																							Y			Y					
1	MW-19B			5/17/23	0950				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU1
2	MW-19I			5/17/23	1120				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU2
3	MW-19A			5/17/23	1220				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU3
* 4	MW-20B			5/17/23	1500				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU4
5	DUP 5			5/17/23	1500				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU7
6	MSD 4			5/17/23	1500				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU5
7	MS 4			5/17/23	1500				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU6
8	MW-20I			5/17/23	1650				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU8
9	MW-20A			5/17/23	1820				11	X	X	X		X					X	X	X	X	X	X	X	X	X			CU9
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Chris Burks	5-18-23	8:15	Jay Williams	5/18	8:15
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)	Jay Williams	5-18-23	10:30		5/18/23	1030
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)						
Alkalinity = (Total , Bicarb & Carb)						

SAMPLE CONDITIONS			
1-9	Y	Y	Y
2-3	1-8		
2-6	3-0		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Burks

SIGNATURE of SAMPLER: Chris Burks

DATE Signed: 5-17-23

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

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: MW2 8/18/23 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(s):** (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

1.9/1.9	2.8/2.3	2.C/2.C	1.8/1.8

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

6. **Ice Type:** ☐ Wet ☐ Blue ☐ None

7. **If temp. is over 6°C or under 0°C, was the PM notified?:** ☐ Yes ☐ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		–	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle:** **HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? Analysis: Na3	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 12:35			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: 3.0/3.0

COC PAGE ____ of ____

Sample Container Count

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

		MeOH (only) / SBS / DI	VIALS					AMBER GLASS							PLASTIC									OTHER					Nitric Red	Sulfuric Yellow	Sodium Hydroxide Green	Sodium Hydroxide/ ZnAc Black
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1	1	1					WT	✓	✓		✓
2																																
3																																
4												3	3			6	3	6	3	3	3		3									
5												1	1			2	1	2	1	1	1		1									
6																																
7																																
8												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
9												1	1			2	1	2	1	1	1		1					WT	✓	✓		✓
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	
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P5R1
Pace Project No.: 50345598

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P5R1
Pace Project No.: 50345598

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P5R1
Pace Project No.: 50345598

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50345598001	**MW-33D2**	Water	05/23/23 13:00	05/23/23 14:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P5R1
Pace Project No.: 50345598

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50345598001	**MW-33D2**	EPA 9056	RID	4	PASI-I
		EPA 6010	ELK	8	PASI-I
		EPA 6010	JPK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	BMS	1	PASI-I
		SM 4500-S2-D	STS	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	MMS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
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SUMMARY OF DETECTION

Project: Petersburg P5R1
Pace Project No.: 50345598

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50345598001	**MW-33D2**					
EPA 9056	Bromide	0.17	mg/L	0.050	06/06/23 05:19	
EPA 9056	Chloride	45.8	mg/L	2.5	06/06/23 05:37	
EPA 9056	Fluoride	3.2	mg/L	0.10	06/06/23 05:19	
EPA 9056	Sulfate	33.0	mg/L	0.25	06/06/23 05:19	
EPA 6010	Calcium	9490	ug/L	1000	06/06/23 17:35	
EPA 6010	Iron	314	ug/L	100	06/06/23 17:35	
EPA 6010	Lithium	53.8	ug/L	20.0	06/06/23 17:35	
EPA 6010	Magnesium	2120	ug/L	1000	06/06/23 17:35	
EPA 6010	Potassium	4090	ug/L	1000	06/06/23 17:35	
EPA 6010	Silica	9590	ug/L	450	06/06/23 17:35	N2
EPA 6010	Sodium	240000	ug/L	2000	06/06/23 17:52	
EPA 6010	Iron, Dissolved	188	ug/L	100	06/03/23 01:21	
EPA 6010	Lithium, Dissolved	49.1	ug/L	20.0	06/03/23 01:21	
EPA 6010	Magnesium, Dissolved	1970	ug/L	1000	06/03/23 01:21	
EPA 6010	Potassium, Dissolved	3720	ug/L	1000	06/03/23 01:21	
EPA 6020	Aluminum	210	ug/L	10.0	06/02/23 06:20	
EPA 6020	Arsenic	1.3	ug/L	1.0	06/02/23 06:20	
EPA 6020	Barium	182	ug/L	1.0	06/02/23 06:20	
EPA 6020	Boron	1140	ug/L	100	06/01/23 18:17	N2
EPA 6020	Manganese	36.2	ug/L	1.0	06/02/23 06:20	
EPA 6020	Molybdenum	13.7	ug/L	10.0	06/02/23 06:20	
EPA 6020	Aluminum, Dissolved	75.0	ug/L	10.0	06/01/23 19:53	
EPA 6020	Boron, Dissolved	1040	ug/L	400	05/31/23 21:18	N2
EPA 6020	Manganese, Dissolved	31.9	ug/L	1.0	06/01/23 06:56	
EPA 6020	Molybdenum, Dissolved	11.9	ug/L	10.0	06/01/23 06:56	
EPA 903.1	Radium-226	0.000 ± 0.559 (1.16) C:NA T:79%	pCi/L		06/20/23 16:21	
EPA 904.0	Radium-228	-0.0320 ± 0.313 (0.742) C:85% T:82%	pCi/L		06/16/23 15:19	
Total Radium Calculation	Total Radium	0.000 ± 0.872 (1.90)	pCi/L		06/21/23 13:20	
SM 2320B	Alkalinity, Total as CaCO3	491	mg/L	10.0	05/25/23 00:18	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	446	mg/L	10.0	05/25/23 00:18	
SM 2320B	Alkalinity,Carbonate (CaCO3)	45.2	mg/L	10.0	05/25/23 00:18	
SM 2540C	Total Dissolved Solids	642	mg/L	10.0	05/28/23 08:26	
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	06/05/23 11:47	H3
SM 4500-S2-D	Sulfide	0.065J	mg/L	0.10	05/25/23 12:39	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P5R1
Pace Project No.: 50345598

Sample: MW-33D2 **Lab ID: 50345598001** Collected: 05/23/23 13:00 Received: 05/23/23 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.17**	mg/L	0.050	0.0090	1		06/06/23 05:19	24959-67-9	
Chloride	**45.8**	mg/L	2.5	0.67	10		06/06/23 05:37	16887-00-6	
Fluoride	**3.2**	mg/L	0.10	0.017	1		06/06/23 05:19	16984-48-8	
Sulfate	**33.0**	mg/L	0.25	0.085	1		06/06/23 05:19	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**9490**	ug/L	1000	163	1	06/05/23 09:07	06/06/23 17:35	7440-70-2	
Chromium	ND	ug/L	10.0	0.97	1	06/05/23 09:07	06/06/23 17:35	7440-47-3	
Iron	**314**	ug/L	100	48.8	1	06/05/23 09:07	06/06/23 17:35	7439-89-6	
Lithium	**53.8**	ug/L	20.0	6.2	1	06/05/23 09:07	06/06/23 17:35	7439-93-2	
Magnesium	**2120**	ug/L	1000	71.8	1	06/05/23 09:07	06/06/23 17:35	7439-95-4	
Potassium	**4090**	ug/L	1000	281	1	06/05/23 09:07	06/06/23 17:35	7440-09-7	
Silica	**9590**	ug/L	450		1	06/05/23 09:07	06/06/23 17:35	7631-86-9	N2
Sodium	**240000**	ug/L	2000	428	2	06/05/23 09:07	06/06/23 17:52	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**188**	ug/L	100	48.8	1	06/02/23 07:48	06/03/23 01:21	7439-89-6	
Lithium, Dissolved	**49.1**	ug/L	20.0	6.2	1	06/02/23 07:48	06/03/23 01:21	7439-93-2	
Magnesium, Dissolved	**1970**	ug/L	1000	71.8	1	06/02/23 07:48	06/03/23 01:21	7439-95-4	
Potassium, Dissolved	**3720**	ug/L	1000	281	1	06/02/23 07:48	06/03/23 01:21	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**210**	ug/L	10.0	1.7	1	05/31/23 16:30	06/02/23 06:20	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	05/31/23 16:30	06/02/23 06:20	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	0.053	1	05/31/23 16:30	06/02/23 06:20	7440-38-2	
Barium	**182**	ug/L	1.0	0.051	1	05/31/23 16:30	06/02/23 06:20	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	05/31/23 16:30	06/02/23 06:20	7440-41-7	
Boron	**1140**	ug/L	100	20.8	20	05/31/23 16:30	06/01/23 18:17	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	05/31/23 16:30	06/02/23 06:20	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	05/31/23 16:30	06/02/23 06:20	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	05/31/23 16:30	06/02/23 06:20	7439-92-1	
Manganese	**36.2**	ug/L	1.0	0.065	1	05/31/23 16:30	06/02/23 06:20	7439-96-5	
Molybdenum	**13.7**	ug/L	10.0	0.048	1	05/31/23 16:30	06/02/23 06:20	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	05/31/23 16:30	06/02/23 06:20	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	05/31/23 16:30	06/02/23 06:20	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	**75.0**	ug/L	10.0	1.7	1	05/30/23 07:25	06/01/23 19:53	7429-90-5	
Boron, Dissolved	**1040**	ug/L	400	20.8	20	05/30/23 07:25	05/31/23 21:18	7440-42-8	N2
Manganese, Dissolved	**31.9**	ug/L	1.0	0.065	1	05/30/23 07:25	06/01/23 06:56	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P5R1
Pace Project No.: 50345598

Sample: MW-33D2 **Lab ID: 50345598001** Collected: 05/23/23 13:00 Received: 05/23/23 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	**11.9**	ug/L	10.0	0.048	1	05/30/23 07:25	06/01/23 06:56	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	05/31/23 10:56	05/31/23 19:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**491**	mg/L	10.0	10.0	1		05/25/23 00:18		
Alkalinity,Bicarbonate (CaCO3)	**446**	mg/L	10.0	10.0	1		05/25/23 00:18		
Alkalinity,Carbonate (CaCO3)	**45.2**	mg/L	10.0	10.0	1		05/25/23 00:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**642**	mg/L	10.0	10.0	1		05/28/23 08:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.10	1		06/05/23 11:47		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	**0.065J**	mg/L	0.10	0.025	1		05/25/23 12:39	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		05/24/23 12:00	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	0.011	1		05/24/23 08:55	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		05/24/23 08:55	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	05/31/23 12:00	06/04/23 08:54		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		05/26/23 03:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		06/07/23 22:39		

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736752
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345598001

METHOD BLANK: 3380283 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	06/05/23 23:53	
Chloride	mg/L	ND	0.25	0.067	06/05/23 23:53	
Fluoride	mg/L	ND	0.10	0.017	06/05/23 23:53	
Sulfate	mg/L	ND	0.25	0.085	06/05/23 23:53	

LABORATORY CONTROL SAMPLE: 3380284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.94	94	80-120	
Chloride	mg/L	2.5	2.2	88	80-120	
Fluoride	mg/L	1	0.93	93	80-120	
Sulfate	mg/L	5	4.5	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3380285 3380286

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.25	1	1	1.2	1.2	95	95	80-120	0	15	
Chloride	mg/L	168	25	25	186	183	69	60	80-120	1	15	M0
Fluoride	mg/L	0.48	1	1	1.4	1.4	92	94	80-120	2	15	
Sulfate	mg/L	466	50	50	502	501	72	70	80-120	0	15	E,M0

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736450
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3379340 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	05/31/23 18:29	

LABORATORY CONTROL SAMPLE: 3379341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3379342 3379343

Parameter	Units	50345528002 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	5.3	103	106	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 737036
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345598001

METHOD BLANK: 3381600 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	163	06/08/23 10:31	
Chromium	ug/L	ND	10.0	0.97	06/08/23 10:31	
Iron	ug/L	ND	100	48.8	06/08/23 10:31	
Lithium	ug/L	ND	20.0	6.2	06/08/23 10:31	
Magnesium	ug/L	ND	1000	71.8	06/08/23 10:31	
Potassium	ug/L	ND	1000	281	06/08/23 10:31	
Silica	ug/L	ND	450		06/08/23 10:31	N2
Sodium	ug/L	ND	1000	214	06/08/23 10:31	

LABORATORY CONTROL SAMPLE: 3381601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	5060	101	80-120	
Chromium	ug/L	1000	996	100	80-120	
Iron	ug/L	2500	2510	100	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	5000	4850	97	80-120	
Potassium	ug/L	5000	4860	97	80-120	
Silica	ug/L	5350	5270	98	80-120	N2
Sodium	ug/L	5000	4980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3381602 3381603

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	214000	5000	5000	218000	219000	92	108	75-125	0	20	
Chromium	ug/L	ND	1000	1000	976	994	98	99	75-125	2	20	
Iron	ug/L	11400	2500	2500	13600	13600	89	88	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1050	1070	105	107	75-125	2	20	
Magnesium	ug/L	68900	5000	5000	72700	72600	77	74	75-125	0	20	P6
Potassium	ug/L	3670	5000	5000	8920	8920	105	105	75-125	0	20	
Silica	ug/L	12500	5350	5350	17700	17700	98	97	75-125	0	20	N2
Sodium	ug/L	54600	5000	5000	60000	59900	107	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736977
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3381301 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	06/03/23 00:08	
Lithium, Dissolved	ug/L	ND	20.0	6.2	06/03/23 00:08	
Magnesium, Dissolved	ug/L	ND	1000	71.8	06/03/23 00:08	
Potassium, Dissolved	ug/L	ND	1000	281	06/03/23 00:08	

LABORATORY CONTROL SAMPLE: 3381302

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	2500	2470	99	80-120	
Lithium, Dissolved	ug/L	1000	962	96	80-120	
Magnesium, Dissolved	ug/L	5000	4720	94	80-120	
Potassium, Dissolved	ug/L	5000	4650	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3381303 3381304

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	11500	2500	2500	13000	13000	62	62	75-125	0	20	P6
Lithium, Dissolved	ug/L	ND	1000	1000	1030	1020	102	102	75-125	0	20	
Magnesium, Dissolved	ug/L	70400	5000	5000	70000	69500	-7	-17	75-125	1	20	P6
Potassium, Dissolved	ug/L	3890	5000	5000	8700	8580	96	94	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736617
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345598001

METHOD BLANK: 3379885 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	06/01/23 18:04	
Antimony	ug/L	ND	1.0	0.036	06/01/23 18:04	
Arsenic	ug/L	ND	1.0	0.053	06/01/23 18:04	
Barium	ug/L	ND	1.0	0.051	06/01/23 18:04	
Beryllium	ug/L	ND	0.20	0.028	06/01/23 18:04	
Boron	ug/L	ND	5.0	1.0	06/01/23 18:04	N2
Cadmium	ug/L	ND	2.0	0.0090	06/01/23 18:04	
Cobalt	ug/L	ND	1.0	0.032	06/01/23 18:04	
Lead	ug/L	ND	10.0	0.034	06/01/23 18:04	
Manganese	ug/L	ND	1.0	0.065	06/01/23 18:04	
Molybdenum	ug/L	ND	10.0	0.048	06/01/23 18:04	
Selenium	ug/L	ND	1.0	0.23	06/01/23 18:04	
Thallium	ug/L	ND	1.0	0.033	06/01/23 18:04	

LABORATORY CONTROL SAMPLE: 3379886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	399	100	80-120	
Antimony	ug/L	40	41.5	104	80-120	
Arsenic	ug/L	40	39.6	99	80-120	
Barium	ug/L	40	40.0	100	80-120	
Beryllium	ug/L	40	40.8	102	80-120	
Boron	ug/L	40	42.2	105	80-120	N2
Cadmium	ug/L	40	39.2	98	80-120	
Cobalt	ug/L	40	40.9	102	80-120	
Lead	ug/L	40	40.5	101	80-120	
Manganese	ug/L	40	40.9	102	80-120	
Molybdenum	ug/L	40	40.8	102	80-120	
Selenium	ug/L	40	40.7	102	80-120	
Thallium	ug/L	40	41.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3379887 3379888

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	27.8	400	400	412	410	96	96	75-125	0	20	
Antimony	ug/L	ND	40	40	42.0	41.9	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3379887 3379888

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	34.1	40	40	73.6	73.5	99	98	75-125	0	20	
Barium	ug/L	239	40	40	277	275	97	91	75-125	1	20	E
Beryllium	ug/L	ND	40	40	39.6	39.8	99	99	75-125	0	20	
Boron	ug/L	1680	40	40	1700	1700	65	64	75-125	0	20	E,IC, N2,P6
Cadmium	ug/L	ND	40	40	38.1	37.8	95	95	75-125	1	20	
Cobalt	ug/L	ND	40	40	38.4	38.3	95	95	75-125	0	20	
Lead	ug/L	ND	40	40	40.4	40.9	101	102	75-125	1	20	
Manganese	ug/L	2630	40	40	2700	2670	162	88	75-125	1	20	E,P6
Molybdenum	ug/L	12.4	40	40	54.1	53.9	104	104	75-125	0	20	
Selenium	ug/L	ND	40	40	39.0	39.6	97	99	75-125	2	20	
Thallium	ug/L	ND	40	40	41.5	42.0	104	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736319
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345598001

METHOD BLANK: 3378968 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	1.7	05/31/23 19:08	
Boron, Dissolved	ug/L	ND	20.0	1.0	05/31/23 19:08	N2
Manganese, Dissolved	ug/L	ND	1.0	0.065	05/31/23 19:08	
Molybdenum, Dissolved	ug/L	ND	10.0	0.048	05/31/23 19:08	

LABORATORY CONTROL SAMPLE: 3378969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	397	99	80-120	
Boron, Dissolved	ug/L	40	40.0	100	80-120	N2
Manganese, Dissolved	ug/L	40	40.3	101	80-120	
Molybdenum, Dissolved	ug/L	40	40.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3378970 3378971

Parameter	Units	50345193004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	400	400	386	386	96	96	75-125	0	20	
Boron, Dissolved	ug/L	441	40	40	488	480	117	96	75-125	2	20	N2
Manganese, Dissolved	ug/L	ND	40	40	40.6	40.4	100	99	75-125	0	20	
Molybdenum, Dissolved	ug/L	ND	40	40	41.4	41.5	103	103	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 735713
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50345598001

METHOD BLANK: 3375892 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	05/25/23 00:18	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	05/25/23 00:18	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	05/25/23 00:18	

LABORATORY CONTROL SAMPLE: 3375893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.6	103	90-110	

SAMPLE DUPLICATE: 3375894

Parameter	Units	50345315002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	414	423	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	414	423	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	<10.0	ND		20	

SAMPLE DUPLICATE: 3375895

Parameter	Units	50345506002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	204	208	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	196	199	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736305
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3378938 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	05/28/23 08:24	

LABORATORY CONTROL SAMPLE: 3378939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	282	94	80-120	

SAMPLE DUPLICATE: 3378940

Parameter	Units	50345615003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2640	2650	1	10	

SAMPLE DUPLICATE: 3378941

Parameter	Units	50345621001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	265	257	3	10	

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 737517
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: 50345598001

SAMPLE DUPLICATE: 3383741

Parameter	Units	50345453001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	1	2	H3

SAMPLE DUPLICATE: 3383742

Parameter	Units	50345774001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 735833
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: 50345598001

METHOD BLANK: 3376390 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	05/25/23 12:39	

LABORATORY CONTROL SAMPLE: 3376391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3376392 3376393

Parameter	Units	50345586002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.48	0.47	90	88	90-110	2	20	M0

MATRIX SPIKE SAMPLE: 3376394

Parameter	Units	50345634003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.45	90	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 735509
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3374971 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	05/24/23 11:52	H3,N2

LABORATORY CONTROL SAMPLE: 3374972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	101	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3374973 3374974

Parameter	Units	50345528002 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	0.26	2.5	2.5	2.9	2.9	104	105	90-110	2	20	H3,N2

MATRIX SPIKE SAMPLE: 3374975

Parameter	Units	50345326001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1.2	5	6.4	104	90-110	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 735446
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: 50345598001

METHOD BLANK: 3374772 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	05/24/23 08:03	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	05/24/23 08:03	

LABORATORY CONTROL SAMPLE: 3374773

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3374774 3374775

Parameter	Units	50345528002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1	1	0.96	0.96	95	96	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	98	98	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3374776 3374777

Parameter	Units	50345586002 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	3.4	2	2	5.3	5.4	97	99	90-110	1	20	
Nitrogen, Nitrite	mg/L	ND	2	2	2.0	2.0	97	98	90-110	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 736682
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: 50345598001

METHOD BLANK: 3380058 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	06/04/23 08:36	

LABORATORY CONTROL SAMPLE: 3380059

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3380060 3380061

Parameter	Units	50345489005 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	0.29			1.7	1.8				6		

MATRIX SPIKE SAMPLE: 3380062

Parameter	Units	50345502002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	ND		1.5			

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 735531
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3375131 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	05/25/23 21:27	

LABORATORY CONTROL SAMPLE: 3375132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375133 3375134

Parameter	Units	50344959010 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	23.8	160	160	195	196	107	108	80-120	1	20	

MATRIX SPIKE SAMPLE: 3375135

Parameter	Units	50344959011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	24.7	160	199	109	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 737849
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345598001

METHOD BLANK: 3384882 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	06/07/23 19:06	

LABORATORY CONTROL SAMPLE: 3384883

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: 3384884 3384885

Parameter	Units	50345528002 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	4.6	10	10	14.3	14.4	97	98	80-120	0	20	

MATRIX SPIKE SAMPLE: 3385478

Parameter	Units	50345634003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.0	10	12.0	100	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50345598

Sample: MW-33D2 **Lab ID: 50345598001** Collected: 05/23/23 13:00 Received: 05/23/23 14:00 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	**0.000 ± 0.559 (1.16) C:NA T:79%**	pCi/L	06/20/23 16:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0320 ± 0.313 (0.742) C:85% T:82%**	pCi/L	06/16/23 15:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.872 (1.90)**	pCi/L	06/21/23 13:20	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 592597
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: 50345598001

METHOD BLANK: 2879348 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.495 ± 0.340 (0.644) C:87% T:87%	pCi/L	06/16/23 15:16	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P5R1
Pace Project No.: 50345598

QC Batch: 592596
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: 50345598001

METHOD BLANK: 2879347 Matrix: Water
Associated Lab Samples: 50345598001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0565 ± 0.258 (0.524) C:NA T:87%	pCi/L	06/20/23 16:01	

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QUALIFIERS

Project: Petersburg P5R1
Pace Project No.: 50345598

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P5R1
Pace Project No.: 50345598

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50345598001	**MW-33D2**	EPA 9056	736752		
50345598001	**MW-33D2**	EPA 3010	737036	EPA 6010	737780
50345598001	**MW-33D2**	EPA 3010	736977	EPA 6010	737397
50345598001	**MW-33D2**	EPA 200.2	736617	EPA 6020	736891
50345598001	**MW-33D2**	EPA 200.2	736319	EPA 6020	736484
50345598001	**MW-33D2**	EPA 7470	736450	EPA 7470	736827
50345598001	**MW-33D2**	EPA 903.1	592596		
50345598001	**MW-33D2**	EPA 904.0	592597		
50345598001	**MW-33D2**	Total Radium Calculation	596581		
50345598001	**MW-33D2**	SM 2320B	735713		
50345598001	**MW-33D2**	SM 2540C	736305		
50345598001	**MW-33D2**	SM 4500-H+B	737517		
50345598001	**MW-33D2**	SM 4500-S2-D	735833		
50345598001	**MW-33D2**	HACH 8146	735509		
50345598001	**MW-33D2**	EPA 353.2	735446		
50345598001	**MW-33D2**	EPA 365.1	736682	EPA 365.1	737457
50345598001	**MW-33D2**	SM 5310C	735531		
50345598001	**MW-33D2**	SM 5310C	737849		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

WO# : 50345598

50345598

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:	Regulatory Agency
Email: mark.breting@oneatlas.com	Purchase Order #:	Pace Quote:	
Phone: (317)579-4082 Fax:	Project Name: Petersburg P5R1	Pace Project Manager: Will Statz	State / Location
Requested Due Date:	Project #:	Pace Profile #: 10498/45	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
																		Y/N				Y			Y						
1	MW33D2	WT	G	5/23/23	1300				11	✓	✓	✓	✓		✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Mohammed Bazlamit	5/23/23	14:00	[signature]	5/23/23	1400	15.9	Y	N	Y
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)										
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)										
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:	Mohammed Bazlamit					
SIGNATURE of SAMPLER:	[signature]	DATE Signed: 5/23/23				

F-IN-Q-290-rev.22, 22Apr2022

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DMP 5/23/23 1711

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): 15.9/15.9°C
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. Ice Type: ☑ Wet ☐ Blue ☐ None

7. If temp. is over 6°C or under 0°C, was the PM notified?: ☐ Yes ☑ No
Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	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: 18:10	✓	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:

DMP 5/23/23

C PAGE 1 of 1

Sample Container Count

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

OC Item	WGFU	MeOH (only) SBS DI R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit	Matrix
1												1	1			2	1	2	1	1	1		1				WT
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
Red	Yellow	Green	Black
HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
✓	✓		✓

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P4R6
Pace Project No.: 50346553

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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CERTIFICATIONS

Project: Petersburg P4R6
Pace Project No.: 50346553

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50346553001	**MW12A**	Water	06/06/23 12:05	06/07/23 08:00
50346553002	**MW1A**	Water	06/06/23 15:00	06/07/23 08:00
50346553003	**DUP12**	Water	06/06/23 08:00	06/07/23 08:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50346553001	**MW12A**	EPA 9056	RID	4	PASI-I
		EPA 6010	ELK	8	PASI-I
		EPA 6010	ELK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50346553002	**MW1A**	EPA 9056	RID	4	PASI-I
		EPA 6010	ELK	8	PASI-I
		EPA 6010	ELK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50346553003	**DUP12**	EPA 9056	RID	4	PASI-I

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	ELK	8	PASI-I
		EPA 6010	ELK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

REPORT OF LABORATORY ANALYSIS

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(317)228-3100

SUMMARY OF DETECTION

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50346553001	**MW12A**					
EPA 9056	Chloride	7.1	mg/L	0.25	06/15/23 12:36	
EPA 9056	Sulfate	56.9	mg/L	2.5	06/15/23 12:54	
EPA 6010	Calcium	45900	ug/L	1000	06/16/23 16:57	
EPA 6010	Iron	2540	ug/L	100	06/16/23 16:57	
EPA 6010	Magnesium	17600	ug/L	1000	06/16/23 16:57	
EPA 6010	Potassium	1840	ug/L	1000	06/16/23 16:57	
EPA 6010	Silica	17200	ug/L	450	06/16/23 16:57	N2
EPA 6010	Sodium	3990	ug/L	1000	06/16/23 16:57	
EPA 6010	Iron, Dissolved	2510	ug/L	100	06/16/23 15:43	
EPA 6010	Magnesium, Dissolved	17900	ug/L	1000	06/16/23 15:43	
EPA 6010	Potassium, Dissolved	1820	ug/L	1000	06/16/23 15:43	
EPA 6020	Aluminum	14.9	ug/L	10.0	06/14/23 17:51	
EPA 6020	Barium	73.2	ug/L	1.0	06/14/23 17:51	
EPA 6020	Boron	10.4	ug/L	5.0	06/15/23 14:55	N2
EPA 6020	Manganese	472	ug/L	5.0	06/14/23 17:28	
EPA 6020	Manganese, Dissolved	471	ug/L	5.0	06/13/23 22:32	
EPA 903.1	Radium-226	0.342 ± 0.549 (0.950) C:NA T:101%	pCi/L		06/30/23 12:33	
EPA 904.0	Radium-228	1.11 ± 0.418 (0.563) C:84% T:78%	pCi/L		06/23/23 11:55	
Total Radium Calculation	Total Radium	1.45 ± 0.967 (1.51)	pCi/L		06/30/23 14:22	
SM 2320B	Alkalinity, Total as CaCO3	130	mg/L	10.0	06/07/23 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	130	mg/L	10.0	06/07/23 20:55	
SM 2540C	Total Dissolved Solids	239	mg/L	10.0	06/08/23 08:48	
SM 4500-H+B	pH at 25 Degrees C	8.0	Std. Units	0.10	06/20/23 16:23	H3
HACH 8146	Iron, Ferrous	1.4	mg/L	0.20	06/08/23 16:19	H3,N2
EPA 365.1	Phosphate as P04	0.20	mg/L	0.15	06/15/23 11:57	
50346553002	**MW1A**					
EPA 9056	Chloride	94.1	mg/L	2.5	06/15/23 13:30	
EPA 9056	Sulfate	112	mg/L	2.5	06/15/23 13:30	
EPA 6010	Calcium	112000	ug/L	1000	06/16/23 17:00	
EPA 6010	Iron	3870	ug/L	100	06/16/23 17:00	
EPA 6010	Magnesium	28300	ug/L	1000	06/16/23 17:00	
EPA 6010	Potassium	1480	ug/L	1000	06/16/23 17:00	
EPA 6010	Silica	29200	ug/L	450	06/16/23 17:00	N2
EPA 6010	Sodium	65500	ug/L	1000	06/16/23 17:00	
EPA 6010	Iron, Dissolved	3520	ug/L	100	06/16/23 15:46	
EPA 6010	Magnesium, Dissolved	28400	ug/L	1000	06/16/23 15:46	
EPA 6010	Potassium, Dissolved	1420	ug/L	1000	06/16/23 15:46	
EPA 6020	Aluminum	156	ug/L	10.0	06/14/23 22:10	
EPA 6020	Arsenic	2.3	ug/L	1.0	06/14/23 22:10	

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 P4R6
Pace Project No.: 50346553

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50346553002	**MW1A**					
EPA 6020	Barium	120	ug/L	1.0	06/14/23 22:10	
EPA 6020	Boron	143	ug/L	10.0	06/14/23 17:34	N2
EPA 6020	Manganese	334	ug/L	2.0	06/14/23 17:34	
EPA 6020	Aluminum, Dissolved	19.9	ug/L	10.0	06/13/23 22:56	
EPA 6020	Boron, Dissolved	143	ug/L	40.0	06/14/23 16:54	N2
EPA 6020	Manganese, Dissolved	333	ug/L	2.0	06/13/23 22:36	
EPA 903.1	Radium-226	0.291 ± 0.344 (0.541) C:NA T:92%	pCi/L		06/30/23 12:33	
EPA 904.0	Radium-228	0.671 ± 0.403 (0.742) C:85% T:78%	pCi/L		06/23/23 11:55	
Total Radium Calculation	Total Radium	0.962 ± 0.747 (1.28)	pCi/L		06/30/23 14:22	
SM 2320B	Alkalinity, Total as CaCO3	288	mg/L	10.0	06/07/23 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	288	mg/L	10.0	06/07/23 20:55	
SM 2540C	Total Dissolved Solids	636	mg/L	10.0	06/08/23 08:48	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	06/20/23 16:24	H3
HACH 8146	Iron, Ferrous	0.96	mg/L	0.20	06/08/23 16:24	H3,N2
EPA 365.1	Phosphate as P04	0.23	mg/L	0.15	06/15/23 11:57	
SM 5310C	Dissolved Organic Carbon	1.3	mg/L	1.0	06/20/23 00:27	
50346553003	**DUP12**					
EPA 9056	Chloride	7.1	mg/L	0.25	06/15/23 14:24	
EPA 9056	Sulfate	57.6	mg/L	2.5	06/15/23 14:42	
EPA 6010	Calcium	46800	ug/L	1000	06/16/23 17:02	
EPA 6010	Iron	2590	ug/L	100	06/16/23 17:02	
EPA 6010	Magnesium	17900	ug/L	1000	06/16/23 17:02	
EPA 6010	Potassium	1770	ug/L	1000	06/16/23 17:02	
EPA 6010	Silica	17600	ug/L	450	06/16/23 17:02	N2
EPA 6010	Sodium	3980	ug/L	1000	06/16/23 17:02	
EPA 6010	Iron, Dissolved	2480	ug/L	100	06/16/23 15:53	
EPA 6010	Magnesium, Dissolved	17700	ug/L	1000	06/16/23 15:53	
EPA 6010	Potassium, Dissolved	1770	ug/L	1000	06/16/23 15:53	
EPA 6020	Aluminum	13.3	ug/L	10.0	06/14/23 17:54	
EPA 6020	Barium	73.0	ug/L	1.0	06/14/23 17:54	
EPA 6020	Boron	10.2	ug/L	5.0	06/15/23 15:11	N2
EPA 6020	Manganese	475	ug/L	5.0	06/14/23 17:41	
EPA 6020	Manganese, Dissolved	474	ug/L	5.0	06/13/23 22:39	
EPA 903.1	Radium-226	0.683 ± 0.394 (0.154) C:NA T:94%	pCi/L		06/30/23 12:33	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50346553003	**DUP12**					
EPA 904.0	Radium-228	0.604 ± 0.398 (0.755) C:79% T:84%	pCi/L		06/23/23 11:55	
Total Radium Calculation	Total Radium	1.29 ± 0.792 (0.909)	pCi/L		06/30/23 14:22	
SM 2320B	Alkalinity, Total as CaCO3	129	mg/L	10.0	06/07/23 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	129	mg/L	10.0	06/07/23 20:55	
SM 2540C	Total Dissolved Solids	247	mg/L	10.0	06/08/23 08:49	
SM 4500-H+B	pH at 25 Degrees C	7.6	Std. Units	0.10	06/20/23 16:25	H3
HACH 8146	Iron, Ferrous	1.3	mg/L	0.20	06/08/23 16:15	H3,N2
EPA 365.1	Phosphate as P04	0.17	mg/L	0.15	06/15/23 11:59	

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW12A **Lab ID: 50346553001** Collected: 06/06/23 12:05 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		06/15/23 12:36	24959-67-9	
Chloride	**7.1**	mg/L	0.25	0.067	1		06/15/23 12:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/15/23 12:36	16984-48-8	
Sulfate	**56.9**	mg/L	2.5	0.85	10		06/15/23 12:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**45900**	ug/L	1000	88.4	1	06/14/23 09:35	06/16/23 16:57	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	06/14/23 09:35	06/16/23 16:57	7440-47-3	
Iron	**2540**	ug/L	100	48.8	1	06/14/23 09:35	06/16/23 16:57	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	06/14/23 09:35	06/16/23 16:57	7439-93-2	
Magnesium	**17600**	ug/L	1000	43.0	1	06/14/23 09:35	06/16/23 16:57	7439-95-4	
Potassium	**1840**	ug/L	1000	200	1	06/14/23 09:35	06/16/23 16:57	7440-09-7	
Silica	**17200**	ug/L	450		1	06/14/23 09:35	06/16/23 16:57	7631-86-9	N2
Sodium	**3990**	ug/L	1000	284	1	06/14/23 09:35	06/16/23 16:57	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2510**	ug/L	100	48.8	1	06/15/23 08:21	06/16/23 15:43	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	06/15/23 08:21	06/16/23 15:43	7439-93-2	
Magnesium, Dissolved	**17900**	ug/L	1000	43.0	1	06/15/23 08:21	06/16/23 15:43	7439-95-4	
Potassium, Dissolved	**1820**	ug/L	1000	200	1	06/15/23 08:21	06/16/23 15:43	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**14.9**	ug/L	10.0	1.7	1	06/12/23 16:00	06/14/23 17:51	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	06/12/23 16:00	06/14/23 17:51	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	06/12/23 16:00	06/14/23 17:51	7440-38-2	
Barium	**73.2**	ug/L	1.0	0.051	1	06/12/23 16:00	06/14/23 17:51	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	06/12/23 16:00	06/15/23 14:55	7440-41-7	
Boron	**10.4**	ug/L	5.0	1.0	1	06/12/23 16:00	06/15/23 14:55	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	06/12/23 16:00	06/14/23 17:51	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	06/12/23 16:00	06/14/23 17:51	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	06/12/23 16:00	06/14/23 17:51	7439-92-1	
Manganese	**472**	ug/L	5.0	0.32	5	06/12/23 16:00	06/14/23 17:28	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/14/23 17:51	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	06/12/23 16:00	06/14/23 17:51	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	06/12/23 16:00	06/14/23 17:51	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	06/12/23 16:00	06/13/23 22:53	7429-90-5	
Boron, Dissolved	ND	ug/L	20.0	1.0	1	06/12/23 16:00	06/14/23 16:58	7440-42-8	N2
Manganese, Dissolved	**471**	ug/L	5.0	0.32	5	06/12/23 16:00	06/13/23 22:32	7439-96-5	

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(317)228-3100

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW12A **Lab ID: 50346553001** Collected: 06/06/23 12:05 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/13/23 22:53	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	06/14/23 10:38	06/14/23 19:54	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**130**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Bicarbonate (CaCO3)	**130**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		06/07/23 20:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**239**	mg/L	10.0	10.0	1		06/08/23 08:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**8.0**	Std. Units	0.10	0.10	1		06/20/23 16:23		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		06/12/23 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.4**	mg/L	0.20	0.035	1		06/08/23 16:19	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		06/07/23 11:05	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		06/07/23 11:05	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.20**	mg/L	0.15	0.15	1	06/13/23 13:00	06/15/23 11:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		06/14/23 19:42	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		06/20/23 00:17		

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ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW1A **Lab ID: 50346553002** Collected: 06/06/23 15:00 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		06/15/23 13:12	24959-67-9	
Chloride	**94.1**	mg/L	2.5	0.67	10		06/15/23 13:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/15/23 13:12	16984-48-8	
Sulfate	**112**	mg/L	2.5	0.85	10		06/15/23 13:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**112000**	ug/L	1000	88.4	1	06/14/23 09:35	06/16/23 17:00	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	06/14/23 09:35	06/16/23 17:00	7440-47-3	
Iron	**3870**	ug/L	100	48.8	1	06/14/23 09:35	06/16/23 17:00	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	06/14/23 09:35	06/16/23 17:00	7439-93-2	
Magnesium	**28300**	ug/L	1000	43.0	1	06/14/23 09:35	06/16/23 17:00	7439-95-4	
Potassium	**1480**	ug/L	1000	200	1	06/14/23 09:35	06/16/23 17:00	7440-09-7	
Silica	**29200**	ug/L	450		1	06/14/23 09:35	06/16/23 17:00	7631-86-9	N2
Sodium	**65500**	ug/L	1000	284	1	06/14/23 09:35	06/16/23 17:00	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**3520**	ug/L	100	48.8	1	06/15/23 08:21	06/16/23 15:46	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	06/15/23 08:21	06/16/23 15:46	7439-93-2	
Magnesium, Dissolved	**28400**	ug/L	1000	43.0	1	06/15/23 08:21	06/16/23 15:46	7439-95-4	
Potassium, Dissolved	**1420**	ug/L	1000	200	1	06/15/23 08:21	06/16/23 15:46	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**156**	ug/L	10.0	1.7	1	06/12/23 16:00	06/14/23 22:10	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	06/12/23 16:00	06/14/23 22:10	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	0.053	1	06/12/23 16:00	06/14/23 22:10	7440-38-2	
Barium	**120**	ug/L	1.0	0.051	1	06/12/23 16:00	06/14/23 22:10	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	06/12/23 16:00	06/14/23 22:10	7440-41-7	
Boron	**143**	ug/L	10.0	2.1	2	06/12/23 16:00	06/14/23 17:34	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	06/12/23 16:00	06/14/23 22:10	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	06/12/23 16:00	06/14/23 22:10	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	06/12/23 16:00	06/14/23 22:10	7439-92-1	
Manganese	**334**	ug/L	2.0	0.13	2	06/12/23 16:00	06/14/23 17:34	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/14/23 22:10	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	06/12/23 16:00	06/14/23 22:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	06/12/23 16:00	06/14/23 22:10	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	**19.9**	ug/L	10.0	1.7	1	06/12/23 16:00	06/13/23 22:56	7429-90-5	
Boron, Dissolved	**143**	ug/L	40.0	2.1	2	06/12/23 16:00	06/14/23 16:54	7440-42-8	N2
Manganese, Dissolved	**333**	ug/L	2.0	0.13	2	06/12/23 16:00	06/13/23 22:36	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW1A **Lab ID: 50346553002** Collected: 06/06/23 15:00 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/13/23 22:56	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	06/14/23 10:38	06/14/23 19:56	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**288**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Bicarbonate (CaCO3)	**288**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		06/07/23 20:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**636**	mg/L	10.0	10.0	1		06/08/23 08:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		06/20/23 16:24		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		06/12/23 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.96**	mg/L	0.20	0.035	1		06/08/23 16:24	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	0.011	1		06/07/23 11:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		06/07/23 11:07	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.23**	mg/L	0.15	0.15	1	06/13/23 13:00	06/15/23 11:57		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		06/14/23 20:27	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.3**	mg/L	1.0	0.24	1		06/20/23 00:27		

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ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: DUP12 **Lab ID: 50346553003** Collected: 06/06/23 08:00 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		06/15/23 14:24	24959-67-9	
Chloride	**7.1**	mg/L	0.25	0.067	1		06/15/23 14:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/15/23 14:24	16984-48-8	
Sulfate	**57.6**	mg/L	2.5	0.85	10		06/15/23 14:42	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**46800**	ug/L	1000	88.4	1	06/14/23 09:35	06/16/23 17:02	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	06/14/23 09:35	06/16/23 17:02	7440-47-3	
Iron	**2590**	ug/L	100	48.8	1	06/14/23 09:35	06/16/23 17:02	7439-89-6	
Lithium	ND	ug/L	20.0	6.2	1	06/14/23 09:35	06/16/23 17:02	7439-93-2	
Magnesium	**17900**	ug/L	1000	43.0	1	06/14/23 09:35	06/16/23 17:02	7439-95-4	
Potassium	**1770**	ug/L	1000	200	1	06/14/23 09:35	06/16/23 17:02	7440-09-7	
Silica	**17600**	ug/L	450		1	06/14/23 09:35	06/16/23 17:02	7631-86-9	N2
Sodium	**3980**	ug/L	1000	284	1	06/14/23 09:35	06/16/23 17:02	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**2480**	ug/L	100	48.8	1	06/15/23 08:21	06/16/23 15:53	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	6.2	1	06/15/23 08:21	06/16/23 15:53	7439-93-2	
Magnesium, Dissolved	**17700**	ug/L	1000	43.0	1	06/15/23 08:21	06/16/23 15:53	7439-95-4	
Potassium, Dissolved	**1770**	ug/L	1000	200	1	06/15/23 08:21	06/16/23 15:53	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**13.3**	ug/L	10.0	1.7	1	06/12/23 16:00	06/14/23 17:54	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	06/12/23 16:00	06/14/23 17:54	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	06/12/23 16:00	06/14/23 17:54	7440-38-2	
Barium	**73.0**	ug/L	1.0	0.051	1	06/12/23 16:00	06/14/23 17:54	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	06/12/23 16:00	06/15/23 15:11	7440-41-7	
Boron	**10.2**	ug/L	5.0	1.0	1	06/12/23 16:00	06/15/23 15:11	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	06/12/23 16:00	06/14/23 17:54	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	06/12/23 16:00	06/14/23 17:54	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	06/12/23 16:00	06/14/23 17:54	7439-92-1	
Manganese	**475**	ug/L	5.0	0.32	5	06/12/23 16:00	06/14/23 17:41	7439-96-5	
Molybdenum	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/14/23 17:54	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	06/12/23 16:00	06/14/23 17:54	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	06/12/23 16:00	06/14/23 17:54	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	06/12/23 16:00	06/13/23 22:59	7429-90-5	
Boron, Dissolved	ND	ug/L	20.0	1.0	1	06/12/23 16:00	06/14/23 17:01	7440-42-8	N2
Manganese, Dissolved	**474**	ug/L	5.0	0.32	5	06/12/23 16:00	06/13/23 22:39	7439-96-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: DUP12 **Lab ID: 50346553003** Collected: 06/06/23 08:00 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	ND	ug/L	10.0	0.048	1	06/12/23 16:00	06/13/23 22:59	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	06/14/23 10:38	06/14/23 19:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**129**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Bicarbonate (CaCO3)	**129**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		06/07/23 20:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**247**	mg/L	10.0	10.0	1		06/08/23 08:49		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.6**	Std. Units	0.10	0.10	1		06/20/23 16:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		06/12/23 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**1.3**	mg/L	0.20	0.035	1		06/08/23 16:15	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		06/07/23 11:13	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		06/07/23 11:13	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.17**	mg/L	0.15	0.15	1	06/13/23 13:00	06/15/23 11:59		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		06/14/23 20:52	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		06/20/23 00:38		

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 739167
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3390837 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	06/15/23 15:51	
Chloride	mg/L	ND	0.25	0.067	06/15/23 15:51	
Fluoride	mg/L	ND	0.10	0.017	06/15/23 15:51	
Sulfate	mg/L	ND	0.25	0.085	06/15/23 15:51	

LABORATORY CONTROL SAMPLE: 3390838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.95	95	80-120	
Chloride	mg/L	2.5	2.4	96	80-120	
Fluoride	mg/L	1	0.96	96	80-120	
Sulfate	mg/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3390841 3390842

Parameter	Units	50346458001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	3.4	1	1	4.3	4.3	90	90	80-120	0	15	
Chloride	mg/L	174	250	250	361	360	75	74	80-120	0	15	M0
Fluoride	mg/L	ND	1	1	0.97	0.98	89	90	80-120	1	15	
Sulfate	mg/L	153	500	500	597	592	89	88	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 739133
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3390754 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	06/14/23 19:27	

LABORATORY CONTROL SAMPLE: 3390755

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: 3390756 3390757

Parameter	Units	50346458001 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	84	81	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738601
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3388853 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	88.4	06/16/23 16:16	
Chromium	ug/L	ND	10.0	2.4	06/16/23 16:16	
Iron	ug/L	ND	100	48.8	06/16/23 16:16	
Lithium	ug/L	ND	20.0	6.2	06/16/23 16:16	
Magnesium	ug/L	ND	1000	43.0	06/16/23 16:16	
Potassium	ug/L	ND	1000	200	06/16/23 16:16	
Silica	ug/L	ND	450		06/16/23 16:16	N2
Sodium	ug/L	ND	1000	284	06/16/23 16:16	

LABORATORY CONTROL SAMPLE: 3388854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9610	96	80-120	
Chromium	ug/L	1000	948	95	80-120	
Iron	ug/L	10000	9710	97	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	9470	95	80-120	
Potassium	ug/L	10000	9610	96	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	9690	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3388855 3388856

Parameter	Units	50346533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	342000	10000	10000	347000	346000	47	33	75-125	0	20	E,P6
Chromium	ug/L	32.8	1000	1000	989	963	96	93	75-125	3	20	
Iron	ug/L	72800	10000	10000	78900	77000	60	42	75-125	2	20	P6
Lithium	ug/L	ND	1000	1000	1120	1090	111	108	75-125	3	20	
Magnesium	ug/L	125000	10000	10000	133000	131000	78	57	75-125	2	20	P6
Potassium	ug/L	6960	10000	10000	18600	17800	116	108	75-125	4	20	
Silica	ug/L	57100	10700	10700	88000	85300	289	264	75-125	3	20	N2
Sodium	ug/L	19300	10000	10000	30000	29100	108	99	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738693
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3389194 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	06/16/23 15:03	
Lithium, Dissolved	ug/L	ND	20.0	6.2	06/16/23 15:03	
Magnesium, Dissolved	ug/L	ND	1000	43.0	06/16/23 15:03	
Potassium, Dissolved	ug/L	ND	1000	200	06/16/23 15:03	

LABORATORY CONTROL SAMPLE: 3389195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10300	103	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	10000	9690	97	80-120	
Potassium, Dissolved	ug/L	10000	9880	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389196 3389197

Parameter	Units	50346542021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	459	10000	10000	10400	10600	99	101	75-125	2	20	
Lithium, Dissolved	ug/L	<20.0	1000	1000	1050	1060	103	104	75-125	1	20	
Magnesium, Dissolved	ug/L	9850	10000	10000	19200	19200	93	94	75-125	0	20	
Potassium, Dissolved	ug/L	1680	10000	10000	11800	12000	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738715
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3389251 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	06/14/23 17:08	
Antimony	ug/L	ND	1.0	0.036	06/14/23 17:08	
Arsenic	ug/L	ND	1.0	0.053	06/14/23 17:08	
Barium	ug/L	ND	1.0	0.051	06/14/23 17:08	
Beryllium	ug/L	ND	0.20	0.028	06/14/23 17:08	
Boron	ug/L	ND	5.0	1.0	06/14/23 17:08	N2
Cadmium	ug/L	ND	2.0	0.0090	06/14/23 17:08	
Cobalt	ug/L	ND	1.0	0.032	06/14/23 17:08	
Lead	ug/L	ND	10.0	0.034	06/14/23 17:08	
Manganese	ug/L	ND	1.0	0.065	06/14/23 17:08	
Molybdenum	ug/L	ND	10.0	0.048	06/14/23 17:08	
Selenium	ug/L	ND	1.0	0.23	06/14/23 17:08	
Thallium	ug/L	ND	1.0	0.033	06/14/23 17:08	

LABORATORY CONTROL SAMPLE: 3389252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	411	103	80-120	
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	40.0	100	80-120	
Barium	ug/L	40	40.2	100	80-120	
Beryllium	ug/L	40	42.6	106	80-120	
Boron	ug/L	40	45.5	114	80-120	N2
Cadmium	ug/L	40	39.5	99	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	41.2	103	80-120	
Manganese	ug/L	40	41.7	104	80-120	
Molybdenum	ug/L	40	41.6	104	80-120	
Selenium	ug/L	40	40.4	101	80-120	
Thallium	ug/L	40	41.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<10.0	400	400	408	406	100	100	75-125	0	20	
Antimony	ug/L	<2.0	40	40	42.9	42.8	107	107	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	<1.0	40	40	38.6	38.6	96	96	75-125	0	20	
Barium	ug/L	211	40	40	248	252	94	104	75-125	2	20	
Beryllium	ug/L	<1.0	40	40	41.4	41.3	103	103	75-125	0	20	
Boron	ug/L	508	40	40	564	551	140	107	75-125	2	20	N2,P6
Cadmium	ug/L	1.4	40	40	39.5	39.8	95	96	75-125	1	20	
Cobalt	ug/L	<15.0	40	40	39.0	39.3	97	98	75-125	1	20	
Lead	ug/L	13.6	40	40	56.7	56.7	108	108	75-125	0	20	
Manganese	ug/L	21.5	40	40	60.7	60.7	98	98	75-125	0	20	
Molybdenum	ug/L	3.6	40	40	46.2	46.1	107	106	75-125	0	20	
Selenium	ug/L	<2.0	40	40	20.1	19.9	50	50	75-125	1	20	M3
Thallium	ug/L	<2.0	40	40	43.0	42.6	108	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738714
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3389247 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	1.7	06/13/23 21:29	
Boron, Dissolved	ug/L	ND	20.0	1.0	06/14/23 16:11	N2
Manganese, Dissolved	ug/L	ND	1.0	0.065	06/13/23 21:29	
Molybdenum, Dissolved	ug/L	ND	10.0	0.048	06/13/23 21:29	

LABORATORY CONTROL SAMPLE: 3389248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	403	101	80-120	
Boron, Dissolved	ug/L	40	45.6	114	80-120	N2
Manganese, Dissolved	ug/L	40	41.4	103	80-120	
Molybdenum, Dissolved	ug/L	40	42.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389249 3389250

Parameter	Units	50346787004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	0.026 mg/L	400	400	453	449	107	106	75-125	1	20	
Boron, Dissolved	ug/L	0.036 mg/L	40	40	67.1	66.6	79	77	75-125	1	20	CC,IR, N2
Manganese, Dissolved	ug/L	0.0019 mg/L	40	40	41.9	41.9	100	100	75-125	0	20	
Molybdenum, Dissolved	ug/L	<0.0010 mg/L	40	40	41.8	41.9	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738108
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3386006 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	06/07/23 20:55	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	06/07/23 20:55	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	06/07/23 20:55	

LABORATORY CONTROL SAMPLE: 3386007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.0	96	90-110	

SAMPLE DUPLICATE: 3386008

Parameter	Units	50346553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	132	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	132	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3386009

Parameter	Units	50346558001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	180	182	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	180	182	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738151
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3386290 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/08/23 08:42	

LABORATORY CONTROL SAMPLE: 3386291

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 3386292

Parameter	Units	50346470001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<50.0	36	6	10	

SAMPLE DUPLICATE: 3386293

Parameter	Units	50346501001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1030	1000	3	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 740255
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: 50346553001, 50346553002, 50346553003

SAMPLE DUPLICATE: 3395793

Parameter	Units	50346482001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.6	1	2	H3

SAMPLE DUPLICATE: 3395797

Parameter	Units	50346706005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738815
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: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3389572 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	06/12/23 14:26	

LABORATORY CONTROL SAMPLE: 3389573

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: 3389574 3389575

Parameter	Units	50346540002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.26	0.5	0.5	0.70	0.70	86	86	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 3389576

Parameter	Units	50346556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.58	116	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738280
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3386832 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	06/08/23 16:07	H3,N2

LABORATORY CONTROL SAMPLE: 3386833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3386834 3386835

Parameter	Units	50346458001 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	0.92	1	1	1.6	1.6	64	66	90-110	1	20	H3,M3, N2

MATRIX SPIKE SAMPLE: 3386836

Parameter	Units	50346553001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1.4	2.5	4.3	116	90-110	H3,M0,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 737966
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: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3385305 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	06/07/23 10:50	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	06/07/23 10:50	

LABORATORY CONTROL SAMPLE: 3385306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3385307 3385308

Parameter	Units	50346458001 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	104	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	103	103	90-110	0	20	

MATRIX SPIKE SAMPLE: 3385415

Parameter	Units	50346558001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.72	72	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.94	92	90-110	

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REPORT OF LABORATORY ANALYSIS

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 738997
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: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3390036 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	06/15/23 11:44	

LABORATORY CONTROL SAMPLE: 3390037

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3390038 3390039

Parameter	Units	50346438001 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	3.5			4.8	5.1				5		

MATRIX SPIKE SAMPLE: 3390040

Parameter	Units	50346553002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.23		1.6			

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 739249
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3391215 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	06/14/23 17:49	

LABORATORY CONTROL SAMPLE: 3391216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.5	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3391217 3391218

Parameter	Units	50346542020 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	<2000 ug/L	20	20	19.8	20.0	96	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 3391219

Parameter	Units	50346553001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	10	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 739722
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346553001, 50346553002, 50346553003

METHOD BLANK: 3393420 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	06/19/23 22:18	

LABORATORY CONTROL SAMPLE: 3393421

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3393422 3393423

Parameter	Units	50346458001 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	14.2	40	40	51.9	52.2	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 3393424

Parameter	Units	50346466001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.9	10	12.6	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW12A **Lab ID: 50346553001** Collected: 06/06/23 12:05 Received: 06/07/23 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	**0.342 ± 0.549 (0.950) C:NA T:101%**	pCi/L	06/30/23 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.11 ± 0.418 (0.563) C:84% T:78%**	pCi/L	06/23/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.45 ± 0.967 (1.51)**	pCi/L	06/30/23 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: MW1A **Lab ID: 50346553002** Collected: 06/06/23 15:00 Received: 06/07/23 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	**0.291 ± 0.344 (0.541) C:NA T:92%**	pCi/L	06/30/23 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.671 ± 0.403 (0.742) C:85% T:78%**	pCi/L	06/23/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.962 ± 0.747 (1.28)**	pCi/L	06/30/23 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50346553

Sample: DUP12 **Lab ID: 50346553003** Collected: 06/06/23 08:00 Received: 06/07/23 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	**0.683 ± 0.394 (0.154) C:NA T:94%**	pCi/L	06/30/23 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.604 ± 0.398 (0.755) C:79% T:84%**	pCi/L	06/23/23 11:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.29 ± 0.792 (0.909)**	pCi/L	06/30/23 14:22	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 594392
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: 50346553001, 50346553002, 50346553003

METHOD BLANK: 2888911 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.212 (0.431) C:NA T:93%	pCi/L	06/30/23 12:20	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50346553

QC Batch: 594395
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: 50346553001, 50346553002, 50346553003

METHOD BLANK: 2888915 Matrix: Water
Associated Lab Samples: 50346553001, 50346553002, 50346553003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.752 ± 0.391 (0.680) C:78% T:88%	pCi/L	06/23/23 11:53	

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QUALIFIERS

Project: Petersburg P4R6
Pace Project No.: 50346553

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
IR	The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.
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: Petersburg P4R6
Pace Project No.: 50346553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50346553001	**MW12A**	EPA 9056	739167		
50346553002	**MW1A**	EPA 9056	739167		
50346553003	**DUP12**	EPA 9056	739167		
50346553001	**MW12A**	EPA 3010	738601	EPA 6010	739701
50346553002	**MW1A**	EPA 3010	738601	EPA 6010	739701
50346553003	**DUP12**	EPA 3010	738601	EPA 6010	739701
50346553001	**MW12A**	EPA 3010	738693	EPA 6010	739692
50346553002	**MW1A**	EPA 3010	738693	EPA 6010	739692
50346553003	**DUP12**	EPA 3010	738693	EPA 6010	739692
50346553001	**MW12A**	EPA 200.2	738715	EPA 6020	738924
50346553002	**MW1A**	EPA 200.2	738715	EPA 6020	738924
50346553003	**DUP12**	EPA 200.2	738715	EPA 6020	738924
50346553001	**MW12A**	EPA 200.2	738714	EPA 6020	738923
50346553002	**MW1A**	EPA 200.2	738714	EPA 6020	738923
50346553003	**DUP12**	EPA 200.2	738714	EPA 6020	738923
50346553001	**MW12A**	EPA 7470	739133	EPA 7470	739314
50346553002	**MW1A**	EPA 7470	739133	EPA 7470	739314
50346553003	**DUP12**	EPA 7470	739133	EPA 7470	739314
50346553001	**MW12A**	EPA 903.1	594392		
50346553002	**MW1A**	EPA 903.1	594392		
50346553003	**DUP12**	EPA 903.1	594392		
50346553001	**MW12A**	EPA 904.0	594395		
50346553002	**MW1A**	EPA 904.0	594395		
50346553003	**DUP12**	EPA 904.0	594395		
50346553001	**MW12A**	Total Radium Calculation	598804		
50346553002	**MW1A**	Total Radium Calculation	598804		
50346553003	**DUP12**	Total Radium Calculation	598804		
50346553001	**MW12A**	SM 2320B	738108		
50346553002	**MW1A**	SM 2320B	738108		
50346553003	**DUP12**	SM 2320B	738108		
50346553001	**MW12A**	SM 2540C	738151		
50346553002	**MW1A**	SM 2540C	738151		
50346553003	**DUP12**	SM 2540C	738151		
50346553001	**MW12A**	SM 4500-H+B	740255		
50346553002	**MW1A**	SM 4500-H+B	740255		
50346553003	**DUP12**	SM 4500-H+B	740255		
50346553001	**MW12A**	SM 4500-S2-D	738815		
50346553002	**MW1A**	SM 4500-S2-D	738815		
50346553003	**DUP12**	SM 4500-S2-D	738815		
50346553001	**MW12A**	HACH 8146	738280		
50346553002	**MW1A**	HACH 8146	738280		
50346553003	**DUP12**	HACH 8146	738280		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R6
Pace Project No.: 50346553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50346553001	**MW12A**	EPA 353.2	737966		
50346553002	**MW1A**	EPA 353.2	737966		
50346553003	**DUP12**	EPA 353.2	737966		
50346553001	**MW12A**	EPA 365.1	738997	EPA 365.1	739448
50346553002	**MW1A**	EPA 365.1	738997	EPA 365.1	739448
50346553003	**DUP12**	EPA 365.1	738997	EPA 365.1	739448
50346553001	**MW12A**	SM 5310C	739249		
50346553002	**MW1A**	SM 5310C	739249		
50346553003	**DUP12**	SM 5310C	739249		
50346553001	**MW12A**	SM 5310C	739722		
50346553002	**MW1A**	SM 5310C	739722		
50346553003	**DUP12**	SM 5310C	739722		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b

WO# : 50346553

50346553

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 P4R6	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/45

Regulatory Agency
State / Location
IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 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	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
																						Y			Y							
1	MW12A	WT	G	6/6/23	1205				11	✓	✓	✓		✓																	001
2	MW1A	WT	G	6/6/23	1500				11	✓	✓	✓		✓																	002
3	DUP12	WT	G	6/6/23	—				11	✓	✓	✓		✓																	003
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Mohammed Bazlamit	6/6/23	17:00	Daniel Pearson/Pace	6/7/23	0800	
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)							See SCUR
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)							
Alkalinity = (Total , Bicarb & Carb)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mohammed Bazlamit

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/6/23

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DMP 6/7/23 0958

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

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

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

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

4. **Cooler Temperature(s):** 1.7°/1.5°C | 1.1°/0.9°C | 1.4°/1.2°C | | **(Initial/Corrected)** RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other Plastic Bags (3rd cooler only)

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_2, NO_3 wet	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1035		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: Incorrect relinquish time, rcvd 06/07/23 0800. DMP 6/7/23

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1				WT	✓	✓		✓
2												↓	↓			↓	↓	↓	↓	↓	↓		↕				↓	↓	↓		↓
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P4R2
Pace Project No.: 50346556

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P4R2
Pace Project No.: 50346556

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P4R2
Pace Project No.: 50346556

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50346556001	**MW-24**	Water	06/06/23 12:30	06/07/23 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Petersburg P4R2
Pace Project No.: 50346556

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50346556001	**MW-24**	EPA 9056	RID	4	PASI-I
		EPA 6010	ELK	8	PASI-I
		EPA 6010	ELK	4	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 6020	CAW	4	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	ZM	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P4R2
Pace Project No.: 50346556

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50346556001	**MW-24**					
EPA 9056	Bromide	0.51	mg/L	0.050	06/15/23 15:00	
EPA 9056	Chloride	57.1	mg/L	2.5	06/15/23 15:19	
EPA 9056	Sulfate	600	mg/L	25.0	06/15/23 15:37	
EPA 6010	Calcium	248000	ug/L	2000	06/16/23 17:31	
EPA 6010	Iron	114	ug/L	100	06/16/23 17:05	
EPA 6010	Lithium	1410	ug/L	20.0	06/16/23 17:05	
EPA 6010	Magnesium	29700	ug/L	1000	06/16/23 17:05	
EPA 6010	Potassium	141000	ug/L	1000	06/16/23 17:05	
EPA 6010	Silica	17300	ug/L	450	06/16/23 17:05	N2
EPA 6010	Sodium	73500	ug/L	1000	06/16/23 17:05	
EPA 6010	Iron, Dissolved	124	ug/L	100	06/16/23 15:56	
EPA 6010	Lithium, Dissolved	1430	ug/L	20.0	06/16/23 15:56	
EPA 6010	Magnesium, Dissolved	30500	ug/L	1000	06/16/23 15:56	
EPA 6010	Potassium, Dissolved	138000	ug/L	2000	06/16/23 16:11	
EPA 6020	Barium	34.5	ug/L	1.0	06/14/23 22:17	
EPA 6020	Boron	934	ug/L	100	06/15/23 16:28	N2
EPA 6020	Cobalt	1.8	ug/L	1.0	06/14/23 22:17	
EPA 6020	Manganese	850	ug/L	10.0	06/14/23 21:26	
EPA 6020	Molybdenum	347	ug/L	50.0	06/14/23 21:29	
EPA 6020	Boron, Dissolved	1000	ug/L	400	06/14/23 16:24	N2
EPA 6020	Manganese, Dissolved	891	ug/L	10.0	06/13/23 21:43	
EPA 6020	Molybdenum, Dissolved	352	ug/L	50.0	06/13/23 23:16	
EPA 903.1	Radium-226	-0.0579 ± 0.440 (0.919) C:NA T:98%	pCi/L		06/26/23 16:57	
EPA 904.0	Radium-228	0.609 ± 0.337 (0.605) C:88% T:90%	pCi/L		06/19/23 17:16	
Total Radium Calculation	Total Radium	0.609 ± 0.777 (1.52)	pCi/L		06/27/23 16:48	
SM 2320B	Alkalinity, Total as CaCO3	189	mg/L	10.0	06/07/23 20:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	189	mg/L	10.0	06/07/23 20:55	
SM 2540C	Total Dissolved Solids	1410	mg/L	20.0	06/08/23 09:02	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	06/20/23 16:25	H3
SM 5310C	Dissolved Organic Carbon	1.1	mg/L	1.0	06/20/23 00:48	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P4R2
Pace Project No.: 50346556

Sample: MW-24 **Lab ID: 50346556001** Collected: 06/06/23 12:30 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	**0.51**	mg/L	0.050	0.0090	1		06/15/23 15:00	24959-67-9	
Chloride	**57.1**	mg/L	2.5	0.67	10		06/15/23 15:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		06/15/23 15:00	16984-48-8	
Sulfate	**600**	mg/L	25.0	8.5	100		06/15/23 15:37	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Calcium	**248000**	ug/L	2000	177	2	06/14/23 09:35	06/16/23 17:31	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	06/14/23 09:35	06/16/23 17:05	7440-47-3	
Iron	**114**	ug/L	100	48.8	1	06/14/23 09:35	06/16/23 17:05	7439-89-6	
Lithium	**1410**	ug/L	20.0	6.2	1	06/14/23 09:35	06/16/23 17:05	7439-93-2	
Magnesium	**29700**	ug/L	1000	43.0	1	06/14/23 09:35	06/16/23 17:05	7439-95-4	
Potassium	**141000**	ug/L	1000	200	1	06/14/23 09:35	06/16/23 17:05	7440-09-7	
Silica	**17300**	ug/L	450		1	06/14/23 09:35	06/16/23 17:05	7631-86-9	N2
Sodium	**73500**	ug/L	1000	284	1	06/14/23 09:35	06/16/23 17:05	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Iron, Dissolved	**124**	ug/L	100	48.8	1	06/15/23 08:21	06/16/23 15:56	7439-89-6	
Lithium, Dissolved	**1430**	ug/L	20.0	6.2	1	06/15/23 08:21	06/16/23 15:56	7439-93-2	
Magnesium, Dissolved	**30500**	ug/L	1000	43.0	1	06/15/23 08:21	06/16/23 15:56	7439-95-4	
Potassium, Dissolved	**138000**	ug/L	2000	400	2	06/15/23 08:21	06/16/23 16:11	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	1.7	1	06/12/23 16:00	06/14/23 22:17	7429-90-5	
Antimony	ND	ug/L	1.0	0.036	1	06/12/23 16:00	06/14/23 22:17	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	06/12/23 16:00	06/14/23 22:17	7440-38-2	
Barium	**34.5**	ug/L	1.0	0.051	1	06/12/23 16:00	06/14/23 22:17	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	06/12/23 16:00	06/14/23 22:17	7440-41-7	
Boron	**934**	ug/L	100	20.8	20	06/12/23 16:00	06/15/23 16:28	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	06/12/23 16:00	06/14/23 22:17	7440-43-9	
Cobalt	**1.8**	ug/L	1.0	0.032	1	06/12/23 16:00	06/14/23 22:17	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	06/12/23 16:00	06/14/23 22:17	7439-92-1	
Manganese	**850**	ug/L	10.0	0.65	10	06/12/23 16:00	06/14/23 21:26	7439-96-5	
Molybdenum	**347**	ug/L	50.0	0.24	5	06/12/23 16:00	06/14/23 21:29	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	06/12/23 16:00	06/14/23 22:17	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	06/12/23 16:00	06/14/23 22:17	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	1.7	1	06/12/23 16:00	06/14/23 18:44	7429-90-5	
Boron, Dissolved	**1000**	ug/L	400	20.8	20	06/12/23 16:00	06/14/23 16:24	7440-42-8	N2
Manganese, Dissolved	**891**	ug/L	10.0	0.65	10	06/12/23 16:00	06/13/23 21:43	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R2
Pace Project No.: 50346556

Sample: MW-24 **Lab ID: 50346556001** Collected: 06/06/23 12:30 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Molybdenum, Dissolved	**352**	ug/L	50.0	0.24	5	06/12/23 16:00	06/13/23 23:16	7439-98-7	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	06/14/23 10:38	06/14/23 20:01	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**189**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Bicarbonate (CaCO3)	**189**	mg/L	10.0	10.0	1		06/07/23 20:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		06/07/23 20:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1410**	mg/L	20.0	20.0	1		06/08/23 09:02		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		06/20/23 16:25		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		06/12/23 14:26	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		06/08/23 16:21	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	0.011	1		06/07/23 11:16	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		06/07/23 11:16	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	ND	mg/L	0.15	0.15	1	06/13/23 13:00	06/15/23 12:00		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		06/14/23 21:18	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.1**	mg/L	1.0	0.24	1		06/20/23 00:48		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 739167
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50346556001

METHOD BLANK: 3390837 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	06/15/23 15:51	
Chloride	mg/L	ND	0.25	0.067	06/15/23 15:51	
Fluoride	mg/L	ND	0.10	0.017	06/15/23 15:51	
Sulfate	mg/L	ND	0.25	0.085	06/15/23 15:51	

LABORATORY CONTROL SAMPLE: 3390838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.95	95	80-120	
Chloride	mg/L	2.5	2.4	96	80-120	
Fluoride	mg/L	1	0.96	96	80-120	
Sulfate	mg/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3390841 3390842

Parameter	Units	50346458001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	3.4	1	1	4.3	4.3	90	90	80-120	0	15	
Chloride	mg/L	174	250	250	361	360	75	74	80-120	0	15	M0
Fluoride	mg/L	ND	1	1	0.97	0.98	89	90	80-120	1	15	
Sulfate	mg/L	153	500	500	597	592	89	88	80-120	1	15	

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

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 739133
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3390754 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	06/14/23 19:27	

LABORATORY CONTROL SAMPLE: 3390755

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: 3390756 3390757

Parameter	Units	50346458001 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	84	81	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738601
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50346556001

METHOD BLANK: 3388853 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	88.4	06/16/23 16:16	
Chromium	ug/L	ND	10.0	2.4	06/16/23 16:16	
Iron	ug/L	ND	100	48.8	06/16/23 16:16	
Lithium	ug/L	ND	20.0	6.2	06/16/23 16:16	
Magnesium	ug/L	ND	1000	43.0	06/16/23 16:16	
Potassium	ug/L	ND	1000	200	06/16/23 16:16	
Silica	ug/L	ND	450		06/16/23 16:16	N2
Sodium	ug/L	ND	1000	284	06/16/23 16:16	

LABORATORY CONTROL SAMPLE: 3388854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9610	96	80-120	
Chromium	ug/L	1000	948	95	80-120	
Iron	ug/L	10000	9710	97	80-120	
Lithium	ug/L	1000	1010	101	80-120	
Magnesium	ug/L	10000	9470	95	80-120	
Potassium	ug/L	10000	9610	96	80-120	
Silica	ug/L	10700	10400	97	80-120	N2
Sodium	ug/L	10000	9690	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3388855 3388856

Parameter	Units	50346533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	342000	10000	10000	347000	346000	47	33	75-125	0	20	E,P6
Chromium	ug/L	32.8	1000	1000	989	963	96	93	75-125	3	20	
Iron	ug/L	72800	10000	10000	78900	77000	60	42	75-125	2	20	P6
Lithium	ug/L	ND	1000	1000	1120	1090	111	108	75-125	3	20	
Magnesium	ug/L	125000	10000	10000	133000	131000	78	57	75-125	2	20	P6
Potassium	ug/L	6960	10000	10000	18600	17800	116	108	75-125	4	20	
Silica	ug/L	57100	10700	10700	88000	85300	289	264	75-125	3	20	N2
Sodium	ug/L	19300	10000	10000	30000	29100	108	99	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738693
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3389194 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	100	48.8	06/16/23 15:03	
Lithium, Dissolved	ug/L	ND	20.0	6.2	06/16/23 15:03	
Magnesium, Dissolved	ug/L	ND	1000	43.0	06/16/23 15:03	
Potassium, Dissolved	ug/L	ND	1000	200	06/16/23 15:03	

LABORATORY CONTROL SAMPLE: 3389195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10300	103	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	10000	9690	97	80-120	
Potassium, Dissolved	ug/L	10000	9880	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389196 3389197

Parameter	Units	50346542021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	459	10000	10000	10400	10600	99	101	75-125	2	20	
Lithium, Dissolved	ug/L	<20.0	1000	1000	1050	1060	103	104	75-125	1	20	
Magnesium, Dissolved	ug/L	9850	10000	10000	19200	19200	93	94	75-125	0	20	
Potassium, Dissolved	ug/L	1680	10000	10000	11800	12000	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738715
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50346556001

METHOD BLANK: 3389251 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	1.7	06/14/23 17:08	
Antimony	ug/L	ND	1.0	0.036	06/14/23 17:08	
Arsenic	ug/L	ND	1.0	0.053	06/14/23 17:08	
Barium	ug/L	ND	1.0	0.051	06/14/23 17:08	
Beryllium	ug/L	ND	0.20	0.028	06/14/23 17:08	
Boron	ug/L	ND	5.0	1.0	06/14/23 17:08	N2
Cadmium	ug/L	ND	2.0	0.0090	06/14/23 17:08	
Cobalt	ug/L	ND	1.0	0.032	06/14/23 17:08	
Lead	ug/L	ND	10.0	0.034	06/14/23 17:08	
Manganese	ug/L	ND	1.0	0.065	06/14/23 17:08	
Molybdenum	ug/L	ND	10.0	0.048	06/14/23 17:08	
Selenium	ug/L	ND	1.0	0.23	06/14/23 17:08	
Thallium	ug/L	ND	1.0	0.033	06/14/23 17:08	

LABORATORY CONTROL SAMPLE: 3389252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	411	103	80-120	
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	40.0	100	80-120	
Barium	ug/L	40	40.2	100	80-120	
Beryllium	ug/L	40	42.6	106	80-120	
Boron	ug/L	40	45.5	114	80-120	N2
Cadmium	ug/L	40	39.5	99	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	41.2	103	80-120	
Manganese	ug/L	40	41.7	104	80-120	
Molybdenum	ug/L	40	41.6	104	80-120	
Selenium	ug/L	40	40.4	101	80-120	
Thallium	ug/L	40	41.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	<10.0	400	400	408	406	100	100	75-125	0	20	
Antimony	ug/L	<2.0	40	40	42.9	42.8	107	107	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	<1.0	40	40	38.6	38.6	96	96	75-125	0	20	
Barium	ug/L	211	40	40	248	252	94	104	75-125	2	20	
Beryllium	ug/L	<1.0	40	40	41.4	41.3	103	103	75-125	0	20	
Boron	ug/L	508	40	40	564	551	140	107	75-125	2	20	N2,P6
Cadmium	ug/L	1.4	40	40	39.5	39.8	95	96	75-125	1	20	
Cobalt	ug/L	<15.0	40	40	39.0	39.3	97	98	75-125	1	20	
Lead	ug/L	13.6	40	40	56.7	56.7	108	108	75-125	0	20	
Manganese	ug/L	21.5	40	40	60.7	60.7	98	98	75-125	0	20	
Molybdenum	ug/L	3.6	40	40	46.2	46.1	107	106	75-125	0	20	
Selenium	ug/L	<2.0	40	40	20.1	19.9	50	50	75-125	1	20	M3
Thallium	ug/L	<2.0	40	40	43.0	42.6	108	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738714
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50346556001

METHOD BLANK: 3389247 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	1.7	06/13/23 21:29	
Boron, Dissolved	ug/L	ND	20.0	1.0	06/14/23 16:11	N2
Manganese, Dissolved	ug/L	ND	1.0	0.065	06/13/23 21:29	
Molybdenum, Dissolved	ug/L	ND	10.0	0.048	06/13/23 21:29	

LABORATORY CONTROL SAMPLE: 3389248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	403	101	80-120	
Boron, Dissolved	ug/L	40	45.6	114	80-120	N2
Manganese, Dissolved	ug/L	40	41.4	103	80-120	
Molybdenum, Dissolved	ug/L	40	42.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389249 3389250

Parameter	Units	50346787004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	0.026 mg/L	400	400	453	449	107	106	75-125	1	20	
Boron, Dissolved	ug/L	0.036 mg/L	40	40	67.1	66.6	79	77	75-125	1	20	CC,IR, N2
Manganese, Dissolved	ug/L	0.0019 mg/L	40	40	41.9	41.9	100	100	75-125	0	20	
Molybdenum, Dissolved	ug/L	<0.0010 mg/L	40	40	41.8	41.9	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738108
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50346556001

METHOD BLANK: 3386006 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	06/07/23 20:55	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	06/07/23 20:55	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	06/07/23 20:55	

LABORATORY CONTROL SAMPLE: 3386007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.0	96	90-110	

SAMPLE DUPLICATE: 3386008

Parameter	Units	50346553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	130	132	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	130	132	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3386009

Parameter	Units	50346558001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	180	182	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	180	182	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738154
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3386302 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/08/23 09:02	

LABORATORY CONTROL SAMPLE: 3386303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 3386304

Parameter	Units	50346556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1410	1420	1	10	

SAMPLE DUPLICATE: 3386305

Parameter	Units	50346653007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	274	274	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 740255
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: 50346556001

SAMPLE DUPLICATE: 3395793

Parameter	Units	50346482001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.6	1	2	H3

SAMPLE DUPLICATE: 3395797

Parameter	Units	50346706005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738815
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: 50346556001

METHOD BLANK: 3389572 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	06/12/23 14:26	

LABORATORY CONTROL SAMPLE: 3389573

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: 3389574 3389575

Parameter	Units	50346540002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.26	0.5	0.5	0.70	0.70	86	86	90-110	0	20	M3

MATRIX SPIKE SAMPLE: 3389576

Parameter	Units	50346556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	ND	0.5	0.58	116	90-110	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738280
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3386832 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	06/08/23 16:07	H3,N2

LABORATORY CONTROL SAMPLE: 3386833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1	1.0	100	90-110	H3,N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3386834 3386835

Parameter	Units	50346458001 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	0.92	1	1	1.6	1.6	64	66	90-110	1	20	H3,M3, N2

MATRIX SPIKE SAMPLE: 3386836

Parameter	Units	50346553001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1.4	2.5	4.3	116	90-110	H3,M0,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 737966
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: 50346556001

METHOD BLANK: 3385305 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	06/07/23 10:50	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	06/07/23 10:50	

LABORATORY CONTROL SAMPLE: 3385306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	102	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3385307 3385308

Parameter	Units	50346458001 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	104	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	103	103	90-110	0	20	

MATRIX SPIKE SAMPLE: 3385415

Parameter	Units	50346558001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	0.72	72	90-110	
Nitrogen, Nitrite	mg/L	ND	1	0.94	92	90-110	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 738997
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: 50346556001

METHOD BLANK: 3390036 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	06/15/23 11:44	

LABORATORY CONTROL SAMPLE: 3390037

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3390038 3390039

Parameter	Units	50346438001 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	3.5			4.8	5.1				5		

MATRIX SPIKE SAMPLE: 3390040

Parameter	Units	50346553002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphate as P04	mg/L	0.23		1.6			

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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 P4R2
Pace Project No.: 50346556

QC Batch: 739249
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3391215 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	06/14/23 17:49	

LABORATORY CONTROL SAMPLE: 3391216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10	9.5	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3391217 3391218

Parameter	Units	50346542020 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	<2000 ug/L	20	20	19.8	20.0	96	97	80-120	1	20	

MATRIX SPIKE SAMPLE: 3391219

Parameter	Units	50346553001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	10	10	96	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 739722
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346556001

METHOD BLANK: 3393420 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	06/19/23 22:18	

LABORATORY CONTROL SAMPLE: 3393421

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3393422 3393423

Parameter	Units	50346458001 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	14.2	40	40	51.9	52.2	94	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 3393424

Parameter	Units	50346466001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.9	10	12.6	97	80-120	

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(317)228-3100

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R2
Pace Project No.: 50346556

Sample: MW-24 **Lab ID: 50346556001** Collected: 06/06/23 12:30 Received: 06/07/23 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	**-0.0579 ± 0.440 (0.919) C:NA T:98%**	pCi/L	06/26/23 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.609 ± 0.337 (0.605) C:88% T:90%**	pCi/L	06/19/23 17:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.609 ± 0.777 (1.52)**	pCi/L	06/27/23 16:48	7440-14-4	

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 594346
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: 50346556001

METHOD BLANK: 2888857 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.390 ± 0.298 (0.580) C:90% T:87%	pCi/L	06/19/23 17:15	

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Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R2
Pace Project No.: 50346556

QC Batch: 594344
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: 50346556001

METHOD BLANK: 2888852 Matrix: Water
Associated Lab Samples: 50346556001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.251 ± 0.262 (0.369) C:NA T:89%	pCi/L	06/26/23 16:41	

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

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Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: Petersburg P4R2
Pace Project No.: 50346556

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
IR	The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.
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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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R2
Pace Project No.: 50346556

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50346556001	**MW-24**	EPA 9056	739167		
50346556001	**MW-24**	EPA 3010	738601	EPA 6010	739701
50346556001	**MW-24**	EPA 3010	738693	EPA 6010	739692
50346556001	**MW-24**	EPA 200.2	738715	EPA 6020	738924
50346556001	**MW-24**	EPA 200.2	738714	EPA 6020	738923
50346556001	**MW-24**	EPA 7470	739133	EPA 7470	739314
50346556001	**MW-24**	EPA 903.1	594344		
50346556001	**MW-24**	EPA 904.0	594346		
50346556001	**MW-24**	Total Radium Calculation	597944		
50346556001	**MW-24**	SM 2320B	738108		
50346556001	**MW-24**	SM 2540C	738154		
50346556001	**MW-24**	SM 4500-H+B	740255		
50346556001	**MW-24**	SM 4500-S2-D	738815		
50346556001	**MW-24**	HACH 8146	738280		
50346556001	**MW-24**	EPA 353.2	737966		
50346556001	**MW-24**	EPA 365.1	738997	EPA 365.1	739448
50346556001	**MW-24**	SM 5310C	739249		
50346556001	**MW-24**	SM 5310C	739722		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request I

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields m

WO# : 50346556

50346556

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 Sedai
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 P4R2	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/45

Regulatory Agency	
State / Location	IN

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: 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	Rad-226/228 + Sum	Residual Chlorine (Y/N)	
																		Y/N				Y			Y					
1	MW-24	WT	G	6/6/23	12:00	6/6/23	12:30		11	X	X	X		X					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		001
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Maria Mae LeFaive	6/6/23	17:18	Daniel Pearson/Pace	6/7/23	0800	
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)							See SCUR
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)							
Alkalinity = (Total , Bicarb & Carb)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Maria LeFaive

SIGNATURE of SAMPLER: Maria Mae LeFaive

DATE Signed: 6-6-23

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

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: DMP 6/7/23 0958

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

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

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

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

4. Cooler Temperature(s): 1.7°/1.5°C | 1.1°/0.9°C | 1.4°/1.2°C | (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other Plastic Bags (3rd cooler only)

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_2, NO_3 wet	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1055			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: Incorrect relinquish time, rcvd. 06/01/23 0800. DMP 6/7/23

COC PAGE 1 of 1

Sample Container Count

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

COC Line Item	WGFU	MeOH (only) / SBS / DI / R	VIALS: DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			2	1	2	1	1	1		1				WT	✓	✓		✓
2																															
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
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

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

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

August 16, 2023

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

RE: Project: Petersburg P2R3
Pace Project No.: 50346568

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Petersburg P2R3
Pace Project No.: 50346568

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

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Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: Petersburg P2R3
Pace Project No.: 50346568

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50346568001	**MW-15B**	Water	06/06/23 15:20	06/07/23 08:00

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SAMPLE ANALYTE COUNT

Project: Petersburg P2R3
Pace Project No.: 50346568

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50346568001	**MW-15B**	EPA 9056	ADM, RID	3	PASI-I
		EPA 6010	ELK	3	PASI-I
		EPA 6020	CAW	11	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	JLJ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2540C	AEL	1	PASI-I
		SM 4500-H+B	LHZ	1	PASI-I

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

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SUMMARY OF DETECTION

Project: Petersburg P2R3
Pace Project No.: 50346568

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50346568001	**MW-15B**					
EPA 9056	Chloride	55.2	mg/L	2.5	06/15/23 16:13	
EPA 9056	Fluoride	0.11	mg/L	0.10	06/15/23 15:55	
EPA 9056	Sulfate	851	mg/L	25.0	06/16/23 19:09	
EPA 6010	Calcium	268000	ug/L	2000	06/19/23 11:12	
EPA 6010	Lithium	915	ug/L	20.0	06/16/23 17:07	
EPA 6020	Barium	60.5	ug/L	1.0	06/14/23 22:27	
EPA 6020	Boron	1340	ug/L	100	06/15/23 15:01	N2
EPA 6020	Molybdenum	14.3	ug/L	10.0	06/14/23 22:27	
EPA 903.1	Radium-226	0.630 ± 0.690 (1.11) C:NA T:94%	pCi/L		06/28/23 15:55	
EPA 904.0	Radium-228	1.25 ± 0.598 (1.05) C:82% T:71%	pCi/L		06/30/23 11:42	
Total Radium Calculation	Total Radium	1.88 ± 1.29 (2.16)	pCi/L		07/05/23 14:12	
SM 2540C	Total Dissolved Solids	1450	mg/L	20.0	06/08/23 09:05	
SM 4500-H+B	pH at 25 Degrees C	7.5	Std. Units	0.10	06/20/23 16:26	H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Petersburg P2R3
Pace Project No.: 50346568

Sample: MW-15B **Lab ID: 50346568001** Collected: 06/06/23 15:20 Received: 06/07/23 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056								
	Pace Analytical Services - Indianapolis								
Chloride	**55.2**	mg/L	2.5	0.67	10		06/15/23 16:13	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.017	1		06/15/23 15:55	16984-48-8	
Sulfate	**851**	mg/L	25.0	8.5	100		06/16/23 19:09	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Pace Analytical Services - Indianapolis								
Calcium	**268000**	ug/L	2000	326	2	06/14/23 09:35	06/19/23 11:12	7440-70-2	
Chromium	ND	ug/L	10.0	2.4	1	06/14/23 09:35	06/16/23 17:07	7440-47-3	
Lithium	**915**	ug/L	20.0	6.2	1	06/14/23 09:35	06/16/23 17:07	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2								
	Pace Analytical Services - Indianapolis								
Antimony	ND	ug/L	1.0	0.036	1	06/12/23 16:00	06/14/23 22:27	7440-36-0	
Arsenic	ND	ug/L	1.0	0.053	1	06/12/23 16:00	06/14/23 22:27	7440-38-2	
Barium	**60.5**	ug/L	1.0	0.051	1	06/12/23 16:00	06/14/23 22:27	7440-39-3	
Beryllium	ND	ug/L	0.20	0.028	1	06/12/23 16:00	06/14/23 22:27	7440-41-7	
Boron	**1340**	ug/L	100	20.8	20	06/12/23 16:00	06/15/23 15:01	7440-42-8	N2
Cadmium	ND	ug/L	2.0	0.0090	1	06/12/23 16:00	06/14/23 22:27	7440-43-9	
Cobalt	ND	ug/L	1.0	0.032	1	06/12/23 16:00	06/14/23 22:27	7440-48-4	
Lead	ND	ug/L	10.0	0.034	1	06/12/23 16:00	06/14/23 22:27	7439-92-1	
Molybdenum	**14.3**	ug/L	10.0	0.048	1	06/12/23 16:00	06/14/23 22:27	7439-98-7	
Selenium	ND	ug/L	1.0	0.23	1	06/12/23 16:00	06/14/23 22:27	7782-49-2	
Thallium	ND	ug/L	1.0	0.033	1	06/12/23 16:00	06/14/23 22:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	06/14/23 10:38	06/14/23 20:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**1450**	mg/L	20.0	20.0	1		06/08/23 09:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
	Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		06/20/23 16:26		H3

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 739167
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346568001

METHOD BLANK: 3390837 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.067	06/15/23 15:51	
Fluoride	mg/L	ND	0.10	0.017	06/15/23 15:51	
Sulfate	mg/L	ND	0.25	0.085	06/15/23 15:51	

LABORATORY CONTROL SAMPLE: 3390838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.5	2.4	96	80-120	
Fluoride	mg/L	1	0.96	96	80-120	
Sulfate	mg/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3390841 3390842

Parameter	Units	50346458001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	174	250	250	361	360	75	74	80-120	0	15	M0
Fluoride	mg/L	ND	1	1	0.97	0.98	89	90	80-120	1	15	
Sulfate	mg/L	153	500	500	597	592	89	88	80-120	1	15	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 739133
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346568001

METHOD BLANK: 3390754 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	06/14/23 19:27	

LABORATORY CONTROL SAMPLE: 3390755

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: 3390756 3390757

Parameter	Units	50346458001 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	84	81	75-125	4	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 738601
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346568001

METHOD BLANK: 3388853 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	ND	1000	163	06/16/23 16:16	
Chromium	ug/L	ND	10.0	2.4	06/16/23 16:16	
Lithium	ug/L	ND	20.0	6.2	06/16/23 16:16	

LABORATORY CONTROL SAMPLE: 3388854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9610	96	80-120	
Chromium	ug/L	1000	948	95	80-120	
Lithium	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3388855 3388856

Parameter	Units	50346533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	342000	10000	10000	347000	346000	47	33	75-125	0	20	E,P6
Chromium	ug/L	32.8	1000	1000	989	963	96	93	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1120	1090	111	108	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 738715
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346568001

METHOD BLANK: 3389251 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.036	06/14/23 17:08	
Arsenic	ug/L	ND	1.0	0.053	06/14/23 17:08	
Barium	ug/L	ND	1.0	0.051	06/14/23 17:08	
Beryllium	ug/L	ND	0.20	0.028	06/14/23 17:08	
Boron	ug/L	ND	5.0	1.0	06/14/23 17:08	N2
Cadmium	ug/L	ND	2.0	0.0090	06/14/23 17:08	
Cobalt	ug/L	ND	1.0	0.032	06/14/23 17:08	
Lead	ug/L	ND	10.0	0.034	06/14/23 17:08	
Molybdenum	ug/L	ND	10.0	0.048	06/14/23 17:08	
Selenium	ug/L	ND	1.0	0.23	06/14/23 17:08	
Thallium	ug/L	ND	1.0	0.033	06/14/23 17:08	

LABORATORY CONTROL SAMPLE: 3389252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.3	106	80-120	
Arsenic	ug/L	40	40.0	100	80-120	
Barium	ug/L	40	40.2	100	80-120	
Beryllium	ug/L	40	42.6	106	80-120	
Boron	ug/L	40	45.5	114	80-120	N2
Cadmium	ug/L	40	39.5	99	80-120	
Cobalt	ug/L	40	41.1	103	80-120	
Lead	ug/L	40	41.2	103	80-120	
Molybdenum	ug/L	40	41.6	104	80-120	
Selenium	ug/L	40	40.4	101	80-120	
Thallium	ug/L	40	41.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 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	42.9	42.8	107	107	75-125	0	20	
Arsenic	ug/L	<1.0	40	40	38.6	38.6	96	96	75-125	0	20	
Barium	ug/L	211	40	40	248	252	94	104	75-125	2	20	
Beryllium	ug/L	<1.0	40	40	41.4	41.3	103	103	75-125	0	20	
Boron	ug/L	508	40	40	564	551	140	107	75-125	2	20	N2,P6
Cadmium	ug/L	1.4	40	40	39.5	39.8	95	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3389253 3389254

Parameter	Units	50346542024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	<15.0	40	40	39.0	39.3	97	98	75-125	1	20	
Lead	ug/L	13.6	40	40	56.7	56.7	108	108	75-125	0	20	
Molybdenum	ug/L	3.6	40	40	46.2	46.1	107	106	75-125	0	20	
Selenium	ug/L	<2.0	40	40	20.1	19.9	50	50	75-125	1	20	M3
Thallium	ug/L	<2.0	40	40	43.0	42.6	108	106	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 738154
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50346568001

METHOD BLANK: 3386302 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/08/23 09:02	

LABORATORY CONTROL SAMPLE: 3386303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	278	93	80-120	

SAMPLE DUPLICATE: 3386304

Parameter	Units	50346556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1410	1420	1	10	

SAMPLE DUPLICATE: 3386305

Parameter	Units	50346653007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	274	274	0	10	

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QUALITY CONTROL DATA

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 740255
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: 50346568001

SAMPLE DUPLICATE: 3395793

Parameter	Units	50346482001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.6	1	2	H3

SAMPLE DUPLICATE: 3395797

Parameter	Units	50346706005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	2	H3

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50346568

Sample: MW-15B **Lab ID: 50346568001** Collected: 06/06/23 15:20 Received: 06/07/23 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	**0.630 ± 0.690 (1.11) C:NA T:94%**	pCi/L	06/28/23 15:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.25 ± 0.598 (1.05) C:82% T:71%**	pCi/L	06/30/23 11:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.88 ± 1.29 (2.16)**	pCi/L	07/05/23 14:12	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 594383
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: 50346568001

METHOD BLANK: 2888901 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.136 ± 0.235 (0.420) C:NA T:97%	pCi/L	06/28/23 15:40	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P2R3
Pace Project No.: 50346568

QC Batch: 594385
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: 50346568001

METHOD BLANK: 2888903 Matrix: Water
Associated Lab Samples: 50346568001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.343 ± 0.366 (0.759) C:80% T:77%	pCi/L	06/30/23 11:41	

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QUALIFIERS

Project: Petersburg P2R3
Pace Project No.: 50346568

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P2R3
Pace Project No.: 50346568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50346568001	**MW-15B**	EPA 9056	739167		
50346568001	**MW-15B**	EPA 3010	738601	EPA 6010	739701
50346568001	**MW-15B**	EPA 200.2	738715	EPA 6020	738924
50346568001	**MW-15B**	EPA 7470	739133	EPA 7470	739314
50346568001	**MW-15B**	EPA 903.1	594383		
50346568001	**MW-15B**	EPA 904.0	594385		
50346568001	**MW-15B**	Total Radium Calculation	599447		
50346568001	**MW-15B**	SM 2540C	738154		
50346568001	**MW-15B**	SM 4500-H+B	740255		

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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 P2R3	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/43

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Analyses Test Y/N	Metals, Total*	TDS/pH	(Cl, F, SO4) IC	Rad-226/228 + Sum	Residual Chlorine (Y/N)
1	MW-15B	WT	G	6/6/23	1520				11	X	X	X		X					✓	✓	✓	✓		
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Metals* 6010: Cr, Ca, Li	Marix LeFaive	6/6/23	1715				
6020: Be, B, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb							
7470 Hg							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MARIX LEFAIVE

SIGNATURE of SAMPLER: Mark Breting on behalf of Marix LeFaive

DATE Signed: 6/7/23

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

August 2023

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

September 12, 2023

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

RE: Project: Petersburg P4R6
Pace Project No.: 50352055

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
Mr. Robert Miller, Haley & Aldrich

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

CERTIFICATIONS

Project: Petersburg P4R6
Pace Project No.: 50352055

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P4R6
Pace Project No.: 50352055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50352055001	**MW-12A**	Water	08/17/23 13:00	08/18/23 12:30
50352055002	**DUP**	Water	08/17/23 08:00	08/18/23 12:30

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(317)228-3100

SAMPLE ANALYTE COUNT

Project: Petersburg P4R6
Pace Project No.: 50352055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50352055001	**MW-12A**	EPA 9056	ADM	4	PASI-I
		EPA 6010	MTM	12	PASI-I
		EPA 6010	ELK	6	PASI-I
		EPA 6020	MGM	9	PASI-I
		EPA 6020	MGM	2	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	IRH	1	PASI-I
		SM 4500-H+B	RJP	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50352055002	**DUP**	EPA 9056	ADM	4	PASI-I
		EPA 6010	MTM	12	PASI-I
		EPA 6010	ELK	6	PASI-I
		EPA 6020	MGM	9	PASI-I
		EPA 6020	MGM	2	PASI-I
		EPA 7470	EAE	1	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	IRH	1	PASI-I
		SM 4500-H+B	RJP	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Petersburg P4R6
Pace Project No.: 50352055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: Petersburg P4R6
Pace Project No.: 50352055

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50352055001	**MW-12A**					
EPA 9056	Chloride	6.9	mg/L	0.25	08/25/23 01:34	
EPA 9056	Sulfate	61.6	mg/L	2.5	08/29/23 21:53	
EPA 6010	Calcium	46100	ug/L	1000	08/25/23 16:10	
EPA 6010	Iron	3680	ug/L	100	08/25/23 16:10	
EPA 6010	Magnesium	18000	ug/L	1000	08/25/23 16:10	
EPA 6010	Potassium	1890	ug/L	1000	08/25/23 16:10	
EPA 6010	Silica	17300	ug/L	450	08/25/23 16:10	N2
EPA 6010	Sodium	3920	ug/L	1000	08/25/23 16:10	
EPA 6010	Iron, Dissolved	2560	ug/L	100	08/21/23 17:08	
EPA 6010	Magnesium, Dissolved	17600	ug/L	1000	08/21/23 17:08	
EPA 6010	Potassium, Dissolved	1830	ug/L	1000	08/21/23 17:08	
EPA 6020	Barium	77.4	ug/L	1.0	08/23/23 08:12	
EPA 6020	Manganese	533	ug/L	5.0	08/24/23 18:25	
EPA 6020	Manganese, Dissolved	504	ug/L	5.0	08/24/23 18:13	
EPA 903.1	Radium-226	0.402 ± 0.467 (0.754) C:NA T:92%	pCi/L		09/07/23 14:44	
EPA 904.0	Radium-228	0.458 ± 0.314 (0.593) C:83% T:90%	pCi/L		09/06/23 15:07	
Total Radium Calculation	Total Radium	0.860 ± 0.781 (1.35)	pCi/L		09/12/23 15:15	
SM 2320B	Alkalinity, Total as CaCO3	124	mg/L	10.0	08/19/23 00:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	124	mg/L	10.0	08/19/23 00:36	
SM 2540C	Total Dissolved Solids	243	mg/L	10.0	08/23/23 14:57	
SM 4500-H+B	pH at 25 Degrees C	7.3	Std. Units	0.10	08/30/23 11:39	H3
HACH 8146	Iron, Ferrous	0.48	mg/L	0.20	08/24/23 10:58	H3,N2
EPA 365.1	Phosphate as P04	0.27	mg/L	0.15	08/30/23 17:58	
SM 5310C	Dissolved Organic Carbon	1.0	mg/L	1.0	08/30/23 17:05	
50352055002	**DUP**					
EPA 9056	Chloride	6.8	mg/L	0.25	08/25/23 02:09	
EPA 9056	Sulfate	61.9	mg/L	2.5	08/30/23 00:30	
EPA 6010	Calcium	44400	ug/L	1000	08/25/23 16:12	
EPA 6010	Iron	3710	ug/L	100	08/25/23 16:12	
EPA 6010	Magnesium	17200	ug/L	1000	08/25/23 16:12	
EPA 6010	Potassium	1810	ug/L	1000	08/25/23 16:12	
EPA 6010	Silica	16700	ug/L	450	08/25/23 16:12	N2
EPA 6010	Sodium	3800	ug/L	1000	08/25/23 16:12	
EPA 6010	Iron, Dissolved	2620	ug/L	100	08/21/23 17:10	
EPA 6010	Magnesium, Dissolved	18000	ug/L	1000	08/21/23 17:10	
EPA 6010	Potassium, Dissolved	1990	ug/L	1000	08/21/23 17:10	
EPA 6020	Aluminum	10.9	ug/L	10.0	08/24/23 19:01	
EPA 6020	Arsenic	1.1	ug/L	1.0	08/23/23 08:16	
EPA 6020	Barium	78.4	ug/L	1.0	08/23/23 08:16	
EPA 6020	Manganese	535	ug/L	5.0	08/24/23 18:29	

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: Petersburg P4R6
Pace Project No.: 50352055

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50352055002	**DUP**					
EPA 6020	Manganese, Dissolved	503	ug/L	5.0	08/24/23 18:17	
EPA 903.1	Radium-226	1.30 ± 0.814 (1.08) C:NA T:88%	pCi/L		09/07/23 14:44	
EPA 904.0	Radium-228	0.751 ± 0.366 (0.623) C:86% T:91%	pCi/L		09/06/23 15:07	
Total Radium Calculation	Total Radium	2.05 ± 1.18 (1.70)	pCi/L		09/12/23 15:15	
SM 2320B	Alkalinity, Total as CaCO3	127	mg/L	10.0	08/19/23 00:36	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	127	mg/L	10.0	08/19/23 00:36	
SM 2540C	Total Dissolved Solids	240	mg/L	10.0	08/23/23 14:58	
SM 4500-H+B	pH at 25 Degrees C	7.2	Std. Units	0.10	08/30/23 11:40	H3
HACH 8146	Iron, Ferrous	0.41	mg/L	0.20	08/24/23 10:57	H3,N2
EPA 365.1	Phosphate as P04	0.26	mg/L	0.15	08/30/23 18:01	

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

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: MW-12A **Lab ID: 50352055001** Collected: 08/17/23 13:00 Received: 08/18/23 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		08/25/23 01:34	24959-67-9	
Chloride	**6.9**	mg/L	0.25	0.067	1		08/25/23 01:34	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		08/25/23 01:34	16984-48-8	
Sulfate	**61.6**	mg/L	2.5	1.9	10		08/29/23 21:53	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron	ND	ug/L	100	12.3	1	08/22/23 15:33	08/25/23 16:10	7440-42-8	
Cadmium	ND	ug/L	2.0	0.59	1	08/22/23 15:33	08/25/23 16:10	7440-43-9	
Calcium	**46100**	ug/L	1000	143	1	08/22/23 15:33	08/25/23 16:10	7440-70-2	
Chromium	ND	ug/L	10.0	1.4	1	08/22/23 15:33	08/25/23 16:10	7440-47-3	
Iron	**3680**	ug/L	100	28.6	1	08/22/23 15:33	08/25/23 16:10	7439-89-6	
Lead	ND	ug/L	10.0	3.1	1	08/22/23 15:33	08/25/23 16:10	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	08/22/23 15:33	08/25/23 16:10	7439-93-2	
Magnesium	**18000**	ug/L	1000	45.6	1	08/22/23 15:33	08/25/23 16:10	7439-95-4	
Molybdenum	ND	ug/L	10.0	1.2	1	08/22/23 15:33	08/25/23 16:10	7439-98-7	
Potassium	**1890**	ug/L	1000	219	1	08/22/23 15:33	08/25/23 16:10	7440-09-7	
Silica	**17300**	ug/L	450		1	08/22/23 15:33	08/25/23 16:10	7631-86-9	N2
Sodium	**3920**	ug/L	1000	288	1	08/22/23 15:33	08/25/23 16:10	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron, Dissolved	ND	ug/L	100	18.5	1	08/21/23 08:12	08/21/23 17:08	7440-42-8	
Iron, Dissolved	**2560**	ug/L	100	49.5	1	08/21/23 08:12	08/21/23 17:08	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	7.4	1	08/21/23 08:12	08/21/23 17:08	7439-93-2	
Magnesium, Dissolved	**17600**	ug/L	1000	81.9	1	08/21/23 08:12	08/21/23 17:08	7439-95-4	
Molybdenum, Dissolved	ND	ug/L	10.0	1.1	1	08/21/23 08:12	08/21/23 17:08	7439-98-7	
Potassium, Dissolved	**1830**	ug/L	1000	257	1	08/21/23 08:12	08/21/23 17:08	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	ND	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 18:57	7429-90-5	
Antimony	ND	ug/L	1.0	0.13	1	08/22/23 08:05	08/23/23 08:12	7440-36-0	
Arsenic	ND	ug/L	1.0	0.10	1	08/22/23 08:05	08/23/23 08:12	7440-38-2	
Barium	**77.4**	ug/L	1.0	0.14	1	08/22/23 08:05	08/23/23 08:12	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	08/22/23 08:05	08/23/23 08:12	7440-41-7	
Cobalt	ND	ug/L	1.0	0.082	1	08/22/23 08:05	08/23/23 08:12	7440-48-4	
Manganese	**533**	ug/L	5.0	0.91	5	08/22/23 08:05	08/24/23 18:25	7439-96-5	
Selenium	ND	ug/L	1.0	0.44	1	08/22/23 08:05	08/23/23 08:12	7782-49-2	
Thallium	ND	ug/L	1.0	0.072	1	08/22/23 08:05	08/23/23 08:12	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 18:45	7429-90-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: MW-12A **Lab ID: 50352055001** Collected: 08/17/23 13:00 Received: 08/18/23 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Manganese, Dissolved	**504**	ug/L	5.0	0.91	5	08/22/23 08:05	08/24/23 18:13	7439-96-5	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	08/30/23 12:23	08/30/23 14:51	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**124**	mg/L	10.0	10.0	1		08/19/23 00:36		
Alkalinity,Bicarbonate (CaCO3)	**124**	mg/L	10.0	10.0	1		08/19/23 00:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		08/19/23 00:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**243**	mg/L	10.0	10.0	1		08/23/23 14:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.3**	Std. Units	0.10	0.10	1		08/30/23 11:39		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		08/23/23 11:35	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.48**	mg/L	0.20	0.035	1		08/24/23 10:58	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	0.011	1		08/19/23 00:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		08/19/23 00:32	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.27**	mg/L	0.15	0.15	1	08/25/23 12:00	08/30/23 17:58		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		08/24/23 10:54	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**1.0**	mg/L	1.0	0.24	1		08/30/23 17:05		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: DUP **Lab ID: 50352055002** Collected: 08/17/23 08:00 Received: 08/18/23 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		08/25/23 02:09	24959-67-9	
Chloride	**6.8**	mg/L	0.25	0.067	1		08/25/23 02:09	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		08/25/23 02:09	16984-48-8	
Sulfate	**61.9**	mg/L	2.5	1.9	10		08/30/23 00:30	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron	ND	ug/L	100	12.3	1	08/22/23 15:33	08/25/23 16:12	7440-42-8	
Cadmium	ND	ug/L	2.0	0.59	1	08/22/23 15:33	08/25/23 16:12	7440-43-9	
Calcium	**44400**	ug/L	1000	143	1	08/22/23 15:33	08/25/23 16:12	7440-70-2	
Chromium	ND	ug/L	10.0	1.4	1	08/22/23 15:33	08/25/23 16:12	7440-47-3	
Iron	**3710**	ug/L	100	28.6	1	08/22/23 15:33	08/25/23 16:12	7439-89-6	
Lead	ND	ug/L	10.0	3.1	1	08/22/23 15:33	08/25/23 16:12	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	08/22/23 15:33	08/25/23 16:12	7439-93-2	
Magnesium	**17200**	ug/L	1000	45.6	1	08/22/23 15:33	08/25/23 16:12	7439-95-4	
Molybdenum	ND	ug/L	10.0	1.2	1	08/22/23 15:33	08/25/23 16:12	7439-98-7	
Potassium	**1810**	ug/L	1000	219	1	08/22/23 15:33	08/25/23 16:12	7440-09-7	
Silica	**16700**	ug/L	450		1	08/22/23 15:33	08/25/23 16:12	7631-86-9	N2
Sodium	**3800**	ug/L	1000	288	1	08/22/23 15:33	08/25/23 16:12	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron, Dissolved	ND	ug/L	100	18.5	1	08/21/23 08:12	08/21/23 17:10	7440-42-8	
Iron, Dissolved	**2620**	ug/L	100	49.5	1	08/21/23 08:12	08/21/23 17:10	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	7.4	1	08/21/23 08:12	08/21/23 17:10	7439-93-2	
Magnesium, Dissolved	**18000**	ug/L	1000	81.9	1	08/21/23 08:12	08/21/23 17:10	7439-95-4	
Molybdenum, Dissolved	ND	ug/L	10.0	1.1	1	08/21/23 08:12	08/21/23 17:10	7439-98-7	
Potassium, Dissolved	**1990**	ug/L	1000	257	1	08/21/23 08:12	08/21/23 17:10	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**10.9**	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 19:01	7429-90-5	
Antimony	ND	ug/L	1.0	0.13	1	08/22/23 08:05	08/23/23 08:16	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.10	1	08/22/23 08:05	08/23/23 08:16	7440-38-2	
Barium	**78.4**	ug/L	1.0	0.14	1	08/22/23 08:05	08/23/23 08:16	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	08/22/23 08:05	08/23/23 08:16	7440-41-7	
Cobalt	ND	ug/L	1.0	0.082	1	08/22/23 08:05	08/23/23 08:16	7440-48-4	
Manganese	**535**	ug/L	5.0	0.91	5	08/22/23 08:05	08/24/23 18:29	7439-96-5	
Selenium	ND	ug/L	1.0	0.44	1	08/22/23 08:05	08/23/23 08:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.072	1	08/22/23 08:05	08/23/23 08:16	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 18:49	7429-90-5	

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ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: DUP **Lab ID: 50352055002** Collected: 08/17/23 08:00 Received: 08/18/23 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Manganese, Dissolved	**503**	ug/L	5.0	0.91	5	08/22/23 08:05	08/24/23 18:17	7439-96-5	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Indianapolis								
Mercury	ND	ug/L	0.20	0.091	1	08/30/23 12:23	08/30/23 14:54	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**127**	mg/L	10.0	10.0	1		08/19/23 00:36		
Alkalinity,Bicarbonate (CaCO3)	**127**	mg/L	10.0	10.0	1		08/19/23 00:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		08/19/23 00:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**240**	mg/L	10.0	10.0	1		08/23/23 14:58		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		08/30/23 11:40		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		08/23/23 11:35	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	**0.41**	mg/L	0.20	0.035	1		08/24/23 10:57	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	0.011	1		08/19/23 00:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		08/19/23 00:30	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.26**	mg/L	0.15	0.15	1	08/25/23 12:00	08/30/23 18:01		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	ND	mg/L	1.0	0.24	1		08/24/23 11:04	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	ND	mg/L	1.0	0.24	1		08/30/23 17:52		

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749764
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3436409 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	08/24/23 10:54	
Chloride	mg/L	ND	0.25	0.067	08/24/23 10:54	
Fluoride	mg/L	ND	0.10	0.017	08/24/23 10:54	
Sulfate	mg/L	ND	0.25	0.19	08/24/23 10:54	

LABORATORY CONTROL SAMPLE: 3436410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.96	96	80-120	
Chloride	mg/L	2.5	2.3	91	80-120	
Fluoride	mg/L	1	0.96	96	80-120	
Sulfate	mg/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3436417 3436418

Parameter	Units	50351978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	<0.050	1	1	0.95	0.95	91	92	80-120	1	15	
Chloride	mg/L	12.2	2.5	2.5	14.6	14.6	98	98	80-120	0	15	
Fluoride	mg/L	0.67	1	1	1.6	1.6	95	94	80-120	0	15	
Sulfate	mg/L	31.2	5	5	35.9	35.9	95	95	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 750352
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3439163 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.091	08/30/23 14:47	

LABORATORY CONTROL SAMPLE: 3439164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3439165 3439166

Parameter	Units	50352153010 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	15	15	14.4	15.4	96	103	75-125	6	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749160
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3434257 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	12.3	08/25/23 15:07	
Cadmium	ug/L	ND	2.0	0.59	08/25/23 15:07	
Calcium	ug/L	ND	1000	143	08/25/23 15:07	
Chromium	ug/L	ND	10.0	1.4	08/25/23 15:07	
Iron	ug/L	ND	100	28.6	08/25/23 15:07	
Lead	ug/L	ND	10.0	3.1	08/25/23 15:07	
Lithium	ug/L	ND	20.0	6.2	08/25/23 15:07	
Magnesium	ug/L	ND	1000	45.6	08/25/23 15:07	
Molybdenum	ug/L	ND	10.0	1.2	08/25/23 15:07	
Potassium	ug/L	ND	1000	219	08/25/23 15:07	
Silica	ug/L	ND	450		08/25/23 15:07	N2
Sodium	ug/L	ND	1000	288	08/25/23 15:07	

LABORATORY CONTROL SAMPLE: 3434258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	982	98	80-120	
Cadmium	ug/L	1000	991	99	80-120	
Calcium	ug/L	10000	10300	103	80-120	
Chromium	ug/L	1000	988	99	80-120	
Iron	ug/L	10000	10200	102	80-120	
Lead	ug/L	1000	961	96	80-120	
Lithium	ug/L	1000	998	100	80-120	
Magnesium	ug/L	10000	10200	102	80-120	
Molybdenum	ug/L	1000	1040	104	80-120	
Potassium	ug/L	10000	9840	98	80-120	
Silica	ug/L	10700	10500	99	80-120	N2
Sodium	ug/L	10000	9730	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434259 3434260

Parameter	Units	50352008013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	167	1000	1000	1180	1150	101	99	75-125	2	20	
Cadmium	ug/L	ND	1000	1000	1020	994	102	99	75-125	3	20	
Calcium	ug/L	112000	10000	10000	118000	113000	61	4	75-125	5	20	P6
Chromium	ug/L	ND	1000	1000	998	968	99	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434259 3434260

Parameter	Units	50352008013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6520	10000	10000	17200	16400	107	99	75-125	5	20	
Lead	ug/L	ND	1000	1000	936	907	93	90	75-125	3	20	
Lithium	ug/L	ND	1000	1000	1060	1030	104	102	75-125	3	20	
Magnesium	ug/L	40700	10000	10000	49800	47400	91	66	75-125	5	20	P6
Molybdenum	ug/L	ND	1000	1000	1070	1040	106	103	75-125	3	20	
Potassium	ug/L	3560	10000	10000	13800	13300	102	98	75-125	3	20	
Silica	ug/L	37300	10700	10700	66200	67400	270	281	75-125	2	20	N2
Sodium	ug/L	74200	10000	10000	80600	77600	64	34	75-125	4	20	P6

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749157
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3434245 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron, Dissolved	ug/L	ND	100	18.5	08/21/23 16:43	
Iron, Dissolved	ug/L	ND	100	49.5	08/21/23 16:43	
Lithium, Dissolved	ug/L	ND	20.0	7.4	08/21/23 16:43	
Magnesium, Dissolved	ug/L	ND	1000	81.9	08/21/23 16:43	
Molybdenum, Dissolved	ug/L	ND	10.0	1.1	08/21/23 16:43	
Potassium, Dissolved	ug/L	ND	1000	257	08/21/23 16:43	

LABORATORY CONTROL SAMPLE: 3434246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron, Dissolved	ug/L	1000	954	95	80-120	
Iron, Dissolved	ug/L	10000	10300	103	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	10000	10000	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1040	104	80-120	
Potassium, Dissolved	ug/L	10000	9790	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434247 3434248

Parameter	Units	50351050009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron, Dissolved	ug/L	ND	1000	1000	1090	1100	99	100	75-125	2	20	
Iron, Dissolved	ug/L	730	10000	10000	10800	10800	100	101	75-125	1	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1060	1080	106	108	75-125	2	20	
Magnesium, Dissolved	ug/L	79900	10000	10000	87500	92200	76	123	75-125	5	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1070	1080	106	107	75-125	1	20	
Potassium, Dissolved	ug/L	4130	10000	10000	15200	15500	110	113	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749205
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3434376 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	2.8	08/24/23 17:57	
Antimony	ug/L	ND	1.0	0.13	08/23/23 06:29	
Arsenic	ug/L	ND	1.0	0.10	08/23/23 06:29	
Barium	ug/L	ND	1.0	0.14	08/23/23 06:29	
Beryllium	ug/L	ND	0.20	0.026	08/23/23 06:29	
Cobalt	ug/L	ND	1.0	0.082	08/23/23 06:29	
Manganese	ug/L	ND	1.0	0.18	08/23/23 06:29	
Selenium	ug/L	ND	1.0	0.44	08/23/23 06:29	
Thallium	ug/L	ND	1.0	0.072	08/23/23 06:29	

LABORATORY CONTROL SAMPLE: 3434377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	386	97	80-120	
Antimony	ug/L	40	41.5	104	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Barium	ug/L	40	39.4	99	80-120	
Beryllium	ug/L	40	39.6	99	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Manganese	ug/L	40	41.3	103	80-120	
Selenium	ug/L	40	38.7	97	80-120	
Thallium	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434378 3434379

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	0.64 mg/L	400	400	1050	1050	104	102	75-125	1	20	E,IC
Antimony	ug/L	<0.0010 mg/L	40	40	42.2	42.0	105	105	75-125	1	20	
Arsenic	ug/L	<0.0010 mg/L	40	40	40.1	40.4	99	100	75-125	1	20	
Barium	ug/L	0.033 mg/L	40	40	72.6	73.1	98	99	75-125	1	20	
Beryllium	ug/L	<0.00020 mg/L	40	40	39.9	40.2	100	100	75-125	1	20	
Cobalt	ug/L	<0.0010 mg/L	40	40	39.8	39.6	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434378 3434379

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	0.0084 mg/L	40	40	49.3	48.9	102	101	75-125	1	20	
Selenium	ug/L	<0.0010 mg/L	40	40	40.6	38.9	100	96	75-125	4	20	
Thallium	ug/L	<0.0010 mg/L	40	40	41.6	41.9	104	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749208
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3434390 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	2.8	08/24/23 17:49	
Manganese, Dissolved	ug/L	ND	1.0	0.18	08/23/23 03:34	

LABORATORY CONTROL SAMPLE: 3434391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	395	99	80-120	
Manganese, Dissolved	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434392 3434393

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	0.018 mg/L	400	400	418	425	100	102	75-125	2	20	IC
Manganese, Dissolved	ug/L	<0.0010 mg/L	40	40	40.9	40.6	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749088
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3433936 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	08/19/23 00:36	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	08/19/23 00:36	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	08/19/23 00:36	

LABORATORY CONTROL SAMPLE: 3433937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.6	95	90-110	

SAMPLE DUPLICATE: 3433938

Parameter	Units	50351916007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	315	320	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	315	309	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.8		20	

SAMPLE DUPLICATE: 3433939

Parameter	Units	50351984005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	348	356	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	348	356	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749581
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3435552 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/23/23 14:54	

LABORATORY CONTROL SAMPLE: 3435553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	295	98	80-120	

SAMPLE DUPLICATE: 3435554

Parameter	Units	50351984011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1700	1680	2	10	

SAMPLE DUPLICATE: 3435555

Parameter	Units	50351988003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	745	757	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 750542
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: 50352055001, 50352055002

SAMPLE DUPLICATE: 3439821

Parameter	Units	50351891001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	2	H3

SAMPLE DUPLICATE: 3439822

Parameter	Units	50350056006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749599
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: 50352055001, 50352055002

METHOD BLANK: 3435599 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	08/23/23 11:35	

LABORATORY CONTROL SAMPLE: 3435600

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3435601 3435602

Parameter	Units	50352055001 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	0.56	0.54	111	108	90-110	3	20	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749820
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3436581 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	08/24/23 10:56	H3,N2

LABORATORY CONTROL SAMPLE: 3436582

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: 3436583 3436584

Parameter	Units	50352055002 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	0.41	1	1	1.4	1.5	101	110	90-110	6	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749094
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: 50352055001, 50352055002

METHOD BLANK: 3433960 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	08/19/23 00:21	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	08/19/23 00:21	

LABORATORY CONTROL SAMPLE: 3433961

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	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3433962 3433963

Parameter	Units	50351984007 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	0.22	1	1	1.2	1.2	101	101	90-110	0	20	H3
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	103	102	90-110	1	20	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749986
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: 50352055001, 50352055002

METHOD BLANK: 3437568 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	08/30/23 17:51	

LABORATORY CONTROL SAMPLE: 3437569

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3437570 3437571

Parameter	Units	50352055001 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	0.27			1.7	1.7				4		

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 749626
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3435766 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	08/24/23 07:15	

LABORATORY CONTROL SAMPLE: 3435767

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: 3435768 3435769

Parameter	Units	50351924006 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	3.5	40	40	41.7	41.4	95	95	80-120	1	20	

MATRIX SPIKE SAMPLE: 3435770

Parameter	Units	50351924007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	6.2	80	86.0	100	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 750432
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352055001, 50352055002

METHOD BLANK: 3439354 Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	08/30/23 14:12	

LABORATORY CONTROL SAMPLE: 3439355

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: 3439356 3439357

Parameter	Units	50351988001 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	13.6	10	10	22.7	22.9	92	93	80-120	1	20	

MATRIX SPIKE SAMPLE: 3439358

Parameter	Units	50351988003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.5	10	12.0	96	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: MW-12A **Lab ID: 50352055001** Collected: 08/17/23 13:00 Received: 08/18/23 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.402 ± 0.467 (0.754) C:NA T:92%**	pCi/L	09/07/23 14:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.458 ± 0.314 (0.593) C:83% T:90%**	pCi/L	09/06/23 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.860 ± 0.781 (1.35)**	pCi/L	09/12/23 15:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352055

Sample: DUP **Lab ID: 50352055002** Collected: 08/17/23 08:00 Received: 08/18/23 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.30 ± 0.814 (1.08) C:NA T:88%**	pCi/L	09/07/23 14:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.751 ± 0.366 (0.623) C:86% T:91%**	pCi/L	09/06/23 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.05 ± 1.18 (1.70)**	pCi/L	09/12/23 15:15	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 611558
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: 50352055001, 50352055002

METHOD BLANK: 2976778
Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.888 ± 0.338 (0.427) C:82% T:81%	pCi/L	09/06/23 12:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352055

QC Batch: 611556
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: 50352055001, 50352055002

METHOD BLANK: 2976776
Matrix: Water
Associated Lab Samples: 50352055001, 50352055002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.278 ± 0.317 (0.499) C:NA T:85%	pCi/L	09/07/23 14:24	

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QUALIFIERS

Project: Petersburg P4R6
Pace Project No.: 50352055

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Petersburg P4R6
Pace Project No.: 50352055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50352055001	**MW-12A**	EPA 9056	749764		
50352055002	**DUP**	EPA 9056	749764		
50352055001	**MW-12A**	EPA 3010	749160	EPA 6010	750062
50352055002	**DUP**	EPA 3010	749160	EPA 6010	750062
50352055001	**MW-12A**	EPA 3010	749157	EPA 6010	749286
50352055002	**DUP**	EPA 3010	749157	EPA 6010	749286
50352055001	**MW-12A**	EPA 200.2	749205	EPA 6020	749467
50352055002	**DUP**	EPA 200.2	749205	EPA 6020	749467
50352055001	**MW-12A**	EPA 200.2	749208	EPA 6020	749466
50352055002	**DUP**	EPA 200.2	749208	EPA 6020	749466
50352055001	**MW-12A**	EPA 7470	750352	EPA 7470	750694
50352055002	**DUP**	EPA 7470	750352	EPA 7470	750694
50352055001	**MW-12A**	EPA 903.1	611556		
50352055002	**DUP**	EPA 903.1	611556		
50352055001	**MW-12A**	EPA 904.0	611558		
50352055002	**DUP**	EPA 904.0	611558		
50352055001	**MW-12A**	Total Radium Calculation	614950		
50352055002	**DUP**	Total Radium Calculation	614950		
50352055001	**MW-12A**	SM 2320B	749088		
50352055002	**DUP**	SM 2320B	749088		
50352055001	**MW-12A**	SM 2540C	749581		
50352055002	**DUP**	SM 2540C	749581		
50352055001	**MW-12A**	SM 4500-H+B	750542		
50352055002	**DUP**	SM 4500-H+B	750542		
50352055001	**MW-12A**	SM 4500-S2-D	749599		
50352055002	**DUP**	SM 4500-S2-D	749599		
50352055001	**MW-12A**	HACH 8146	749820		
50352055002	**DUP**	HACH 8146	749820		
50352055001	**MW-12A**	EPA 353.2	749094		
50352055002	**DUP**	EPA 353.2	749094		
50352055001	**MW-12A**	EPA 365.1	749986	EPA 365.1	750769
50352055002	**DUP**	EPA 365.1	749986	EPA 365.1	750769
50352055001	**MW-12A**	SM 5310C	749626		
50352055002	**DUP**	SM 5310C	749626		
50352055001	**MW-12A**	SM 5310C	750432		
50352055002	**DUP**	SM 5310C	750432		

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Pace Analytical
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CHAIN-OF-CUSTO[illegible]

The Chain-of-Custody is a LE[illegible] ...ely.

WO# : 50352055

50352055

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Infor[illegible]	
Company:	Atlas Indianapolis	Report To:	Mark Breting	Attention:	Accounts Payable
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 P4R6	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:		Pace Profile #:	10498/45

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 + 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	Rad-226/228 + Sum			Residual Chlorine (Y/N)	
1	MW-12A	W	G	8.17	1300				11	3	3	4		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2	DVP	W	G	8.17	—				11	3	3	4		1					✓	✓	✓	✓	✓		✓	✓	✓	✓				
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	[signature]	8-18	1230	Marcus Wienlich	8/18/23	1230	1.8	Y	N	Y
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)										
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)										
Alkalinity = (Total , Bicarb & Carb)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hayle Torres

SIGNATURE of SAMPLER: [signature] P. G. Happer

DATE Signed: 8-18-23

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 8/18/23 1307-MDW

1. Courier: ☐ FED EX ☐ UPS ☑ CLIENT ☐ PACE ☐ NOW/JETT ☐ 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 7 8 A B C D E (F) G H

4. Cooler Temperature(s): 1.9 | 1.8 | | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. Ice Type: ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form	✓		
Short Hold Time Analysis (48 hours or less)? **Analysis:** Nitrate	✓					
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1328	✓		Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Custody Signatures Present?	✓		Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Containers Intact?:	✓		Headspace Wisconsin Sulfide?			✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID		✓	Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Extra labels on Terracore Vials? (soils only)			Trip Blank Present?		✓	
			Trip Blank Custody Seals?:			✓

COMMENTS: No time Present on containers - MDW 8/18/23

COC PAGE ____ of ____

Sample Container Count

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

									AMBER GLASS							PLASTIC									OTHER								
			MeOH (only)																											Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
			SBS																											Red	Yellow	Green	Black
			DI																													
COC Line Item	WGFU	WGKU BG1U	R	DG9H VG9H	VOA VIAL HS >6mm	VG9U DG9U	VG9T	AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1												1	1			2	2	1	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	glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	CG3U	250mL Unpres Clear Glass
DG9T	40mL Na Thio amber vial	AG0U	100mL unpres amber glass
DG9U	40mL unpreserved amber vial	AG1H	1L HCl amber glass
VG9H	40mL HCl clear vial	AG1S	1L H2SO4 amber glass
VG9T	40mL Na Thio. clear vial	AG1T	1L Na Thiosulfate amber glass
VG9U	40mL unpreserved clear vial	AG1U	1liter unpres amber glass
I	40mL w/hexane wipe vial	AG2N	500mL HNO3 amber glass
WGKU	8oz unpreserved clear jar	AG2S	500mL H2SO4 amber glass
WGFU	4oz clear soil jar	AG2U	500mL unpres amber glass
JGFU	4oz unpreserved amber wide	AG3S	250mL H2SO4 amber glass
CG3H	250mL clear glass HCl	AG3SF	250mL H2SO4 amb glass -field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3U	250mL unpres amber glass
BG1H	1L HCl clear glass	AG3B	250mL NaOH amber glass
BG1S	1L H2SO4 clear glass		

Plastic

BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc plastic		
BP3R	250mL Unpres. FF SO4/OH buffer		

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid
OL	Oil
NAL	Non-aqueous liquid
WP	Wipe

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

September 12, 2023

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

RE: Project: Petersburg P4R6
Pace Project No.: 50352141

Dear Mr. Breting:

Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2023. 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,

Will Statz
will.statz@pacelabs.com
(317)228-3105
Project Manager

Enclosures

cc: Mohammed Bazlamit, Atlas
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 P4R6
Pace Project No.: 50352141

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
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

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

SAMPLE SUMMARY

Project: Petersburg P4R6
Pace Project No.: 50352141

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50352141001	**MW-1A**	Water	08/18/23 16:45	08/19/23 10:50

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Petersburg P4R6
Pace Project No.: 50352141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50352141001	**MW-1A**	EPA 9056	ADM	4	PASI-I
		EPA 6010	MTM	12	PASI-I
		EPA 6010	ELK	6	PASI-I
		EPA 6020	MGM	9	PASI-I
		EPA 6020	MGM	2	PASI-I
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2320B	DAW	3	PASI-I
		SM 2540C	IRH	1	PASI-I
		SM 4500-H+B	RJP	1	PASI-I
		SM 4500-S2-D	BEP	1	PASI-I
		HACH 8146	BEP	1	PASI-I
		EPA 353.2	OAS	2	PASI-I
		EPA 365.1	YAM	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

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

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

SUMMARY OF DETECTION

Project: Petersburg P4R6
Pace Project No.: 50352141

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50352141001	**MW-1A**					
EPA 9056	Chloride	92.7	mg/L	2.5	08/24/23 22:54	
EPA 9056	Sulfate	120	mg/L	2.5	08/24/23 22:54	
EPA 6010	Boron	170	ug/L	100	08/25/23 17:48	
EPA 6010	Calcium	88000	ug/L	1000	08/25/23 17:48	
EPA 6010	Iron	3410	ug/L	100	08/25/23 17:48	
EPA 6010	Magnesium	24200	ug/L	1000	08/25/23 17:48	
EPA 6010	Potassium	1640	ug/L	1000	08/25/23 17:48	
EPA 6010	Silica	29600	ug/L	450	08/25/23 17:48	N2
EPA 6010	Sodium	80800	ug/L	1000	08/25/23 17:48	
EPA 6010	Boron, Dissolved	151	ug/L	100	08/21/23 17:13	
EPA 6010	Iron, Dissolved	2100	ug/L	100	08/21/23 17:13	
EPA 6010	Magnesium, Dissolved	23700	ug/L	1000	08/21/23 17:13	
EPA 6010	Potassium, Dissolved	1340	ug/L	1000	08/21/23 17:13	
EPA 6020	Aluminum	174	ug/L	10.0	08/24/23 19:05	
EPA 6020	Arsenic	1.5	ug/L	1.0	08/23/23 08:20	
EPA 6020	Barium	84.8	ug/L	1.0	08/23/23 08:20	
EPA 6020	Manganese	262	ug/L	2.0	08/24/23 18:33	
EPA 6020	Manganese, Dissolved	257	ug/L	2.0	08/24/23 18:21	
EPA 903.1	Radium-226	1.50 ± 1.16 (1.70) C:NA T:89%	pCi/L		09/07/23 14:44	
EPA 904.0	Radium-228	1.15 ± 0.481 (0.742) C:83% T:81%	pCi/L		09/06/23 15:07	
Total Radium Calculation	Total Radium	2.65 ± 1.64 (2.44)	pCi/L		09/12/23 15:15	
SM 2320B	Alkalinity, Total as CaCO3	231	mg/L	10.0	08/23/23 22:38	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	231	mg/L	10.0	08/23/23 22:38	
SM 2540C	Total Dissolved Solids	598	mg/L	10.0	08/23/23 15:00	
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	08/30/23 15:54	H3
EPA 365.1	Phosphate as P04	0.15	mg/L	0.15	08/30/23 18:20	
SM 5310C	Total Organic Carbon	2.3	mg/L	1.0	08/24/23 16:34	
SM 5310C	Dissolved Organic Carbon	2.6	mg/L	1.0	08/30/23 18:56	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352141

Sample: MW-1A **Lab ID: 50352141001** Collected: 08/18/23 16:45 Received: 08/19/23 10:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056 Pace Analytical Services - Indianapolis								
Bromide	ND	mg/L	0.050	0.0090	1		08/24/23 22:37	24959-67-9	
Chloride	**92.7**	mg/L	2.5	0.67	10		08/24/23 22:54	16887-00-6	
Fluoride	ND	mg/L	0.10	0.017	1		08/24/23 22:37	16984-48-8	
Sulfate	**120**	mg/L	2.5	1.9	10		08/24/23 22:54	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron	**170**	ug/L	100	12.3	1	08/23/23 15:45	08/25/23 17:48	7440-42-8	
Cadmium	ND	ug/L	2.0	0.59	1	08/23/23 15:45	08/25/23 17:48	7440-43-9	
Calcium	**88000**	ug/L	1000	143	1	08/23/23 15:45	08/25/23 17:48	7440-70-2	
Chromium	ND	ug/L	10.0	1.4	1	08/23/23 15:45	08/25/23 17:48	7440-47-3	
Iron	**3410**	ug/L	100	28.6	1	08/23/23 15:45	08/25/23 17:48	7439-89-6	
Lead	ND	ug/L	10.0	3.1	1	08/23/23 15:45	08/25/23 17:48	7439-92-1	
Lithium	ND	ug/L	20.0	6.2	1	08/23/23 15:45	08/25/23 17:48	7439-93-2	
Magnesium	**24200**	ug/L	1000	45.6	1	08/23/23 15:45	08/25/23 17:48	7439-95-4	
Molybdenum	ND	ug/L	10.0	1.2	1	08/23/23 15:45	08/25/23 17:48	7439-98-7	
Potassium	**1640**	ug/L	1000	219	1	08/23/23 15:45	08/25/23 17:48	7440-09-7	
Silica	**29600**	ug/L	450		1	08/23/23 15:45	08/25/23 17:48	7631-86-9	N2
Sodium	**80800**	ug/L	1000	288	1	08/23/23 15:45	08/25/23 17:48	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis								
Boron, Dissolved	**151**	ug/L	100	18.5	1	08/21/23 08:12	08/21/23 17:13	7440-42-8	
Iron, Dissolved	**2100**	ug/L	100	49.5	1	08/21/23 08:12	08/21/23 17:13	7439-89-6	
Lithium, Dissolved	ND	ug/L	20.0	7.4	1	08/21/23 08:12	08/21/23 17:13	7439-93-2	
Magnesium, Dissolved	**23700**	ug/L	1000	81.9	1	08/21/23 08:12	08/21/23 17:13	7439-95-4	
Molybdenum, Dissolved	ND	ug/L	10.0	1.1	1	08/21/23 08:12	08/21/23 17:13	7439-98-7	
Potassium, Dissolved	**1340**	ug/L	1000	257	1	08/21/23 08:12	08/21/23 17:13	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum	**174**	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 19:05	7429-90-5	
Antimony	ND	ug/L	1.0	0.13	1	08/22/23 08:05	08/23/23 08:20	7440-36-0	
Arsenic	**1.5**	ug/L	1.0	0.10	1	08/22/23 08:05	08/23/23 08:20	7440-38-2	
Barium	**84.8**	ug/L	1.0	0.14	1	08/22/23 08:05	08/23/23 08:20	7440-39-3	
Beryllium	ND	ug/L	0.20	0.026	1	08/22/23 08:05	08/23/23 08:20	7440-41-7	
Cobalt	ND	ug/L	1.0	0.082	1	08/22/23 08:05	08/23/23 08:20	7440-48-4	
Manganese	**262**	ug/L	2.0	0.36	2	08/22/23 08:05	08/24/23 18:33	7439-96-5	
Selenium	ND	ug/L	1.0	0.44	1	08/22/23 08:05	08/23/23 08:20	7782-49-2	
Thallium	ND	ug/L	1.0	0.072	1	08/22/23 08:05	08/23/23 08:20	7440-28-0	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Aluminum, Dissolved	ND	ug/L	10.0	2.8	1	08/22/23 08:05	08/24/23 18:53	7429-90-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Petersburg P4R6
Pace Project No.: 50352141

Sample: MW-1A **Lab ID: 50352141001** Collected: 08/18/23 16:45 Received: 08/19/23 10:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis								
Manganese, Dissolved	**257**	ug/L	2.0	0.36	2	08/22/23 08:05	08/24/23 18:21	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**231**	mg/L	10.0	10.0	1		08/23/23 22:38		
Alkalinity,Bicarbonate (CaCO3)	**231**	mg/L	10.0	10.0	1		08/23/23 22:38		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	10.0	1		08/23/23 22:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis								
Total Dissolved Solids	**598**	mg/L	10.0	10.0	1		08/23/23 15:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Indianapolis								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		08/30/23 15:54		H3
4500S2D Sulfide Water	Analytical Method: SM 4500-S2-D Pace Analytical Services - Indianapolis								
Sulfide	ND	mg/L	0.10	0.025	1		08/23/23 11:35	18496-25-8	
Iron, Ferrous	Analytical Method: HACH 8146 Pace Analytical Services - Indianapolis								
Iron, Ferrous	ND	mg/L	0.20	0.035	1		08/24/23 10:59	15438-31-0	H3,N2
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis								
Nitrogen, Nitrate	ND	mg/L	0.10	0.011	1		08/19/23 16:01	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.0040	1		08/19/23 16:01	14797-65-0	
365.1 Total Phosphorus	Analytical Method: EPA 365.1 Preparation Method: EPA 365.1 Pace Analytical Services - Indianapolis								
Phosphate as P04	**0.15**	mg/L	0.15	0.15	1	08/25/23 13:30	08/30/23 18:20		
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Total Organic Carbon	**2.3**	mg/L	1.0	0.24	1		08/24/23 16:34	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis								
Dissolved Organic Carbon	**2.6**	mg/L	1.0	0.24	1		08/30/23 18:56		

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749768
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50352141001

METHOD BLANK: 3436426 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Bromide	mg/L	ND	0.050	0.0090	08/24/23 08:45	
Chloride	mg/L	ND	0.25	0.067	08/24/23 08:45	
Fluoride	mg/L	ND	0.10	0.017	08/24/23 08:45	
Sulfate	mg/L	ND	0.25	0.19	08/24/23 08:45	

LABORATORY CONTROL SAMPLE: 3436427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	0.97	97	80-120	
Chloride	mg/L	2.5	2.3	93	80-120	
Fluoride	mg/L	1	0.96	96	80-120	
Sulfate	mg/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3436428 3436429

Parameter	Units	50352287002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	0.23	1	1	1.2	1.2	94	95	80-120	1	15	
Chloride	mg/L	343	250	250	575	573	93	92	80-120	0	15	
Fluoride	mg/L	0.17	1	1	1.1	1.1	96	98	80-120	2	15	
Sulfate	mg/L	1330	500	500	1780	1770	90	89	80-120	0	15	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749350
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352141001

METHOD BLANK: 3434733 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	12.3	08/25/23 17:32	
Cadmium	ug/L	ND	2.0	0.59	08/25/23 17:32	
Calcium	ug/L	ND	1000	143	08/25/23 17:32	
Chromium	ug/L	ND	10.0	1.4	08/25/23 17:32	
Iron	ug/L	ND	100	28.6	08/25/23 17:32	
Lead	ug/L	ND	10.0	3.1	08/25/23 17:32	
Lithium	ug/L	ND	20.0	6.2	08/25/23 17:32	
Magnesium	ug/L	ND	1000	45.6	08/25/23 17:32	
Molybdenum	ug/L	ND	10.0	1.2	08/25/23 17:32	
Potassium	ug/L	ND	1000	219	08/25/23 17:32	
Silica	ug/L	ND	450		08/25/23 17:32	N2
Sodium	ug/L	ND	1000	288	08/25/23 17:32	

LABORATORY CONTROL SAMPLE: 3434734

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	972	97	80-120	
Cadmium	ug/L	1000	994	99	80-120	
Calcium	ug/L	10000	10100	101	80-120	
Chromium	ug/L	1000	1010	101	80-120	
Iron	ug/L	10000	10000	100	80-120	
Lead	ug/L	1000	967	97	80-120	
Lithium	ug/L	1000	1020	102	80-120	
Magnesium	ug/L	10000	9860	99	80-120	
Molybdenum	ug/L	1000	1060	106	80-120	
Potassium	ug/L	10000	9940	99	80-120	
Silica	ug/L	10700	10400	98	80-120	N2
Sodium	ug/L	10000	10100	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434735 3434736

Parameter	Units	50352186001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	<100	1000	1000	1020	1020	99	100	75-125	0	20	
Cadmium	ug/L	<2.0	1000	1000	998	1010	100	101	75-125	1	20	
Calcium	ug/L	43700	10000	10000	53800	53800	101	101	75-125	0	20	
Chromium	ug/L	<10.0	1000	1000	986	992	99	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434735 3434736

Parameter	Units	50352186001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	<100	10000	10000	9860	9940	99	99	75-125	1	20	
Lead	ug/L	<10.0	1000	1000	921	931	92	93	75-125	1	20	
Lithium	ug/L	<20.0	1000	1000	1020	1020	102	102	75-125	1	20	
Magnesium	ug/L	9960	10000	10000	19600	19700	96	97	75-125	0	20	
Molybdenum	ug/L	17.0	1000	1000	1050	1060	103	104	75-125	1	20	
Potassium	ug/L	80300	10000	10000	91400	91200	111	108	75-125	0	20	
Silica	ug/L	6990	10700	10700	17700	17600	100	99	75-125	0	20	N2
Sodium	ug/L	57600	10000	10000	67300	67400	97	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749157
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50352141001

METHOD BLANK: 3434245 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron, Dissolved	ug/L	ND	100	18.5	08/21/23 16:43	
Iron, Dissolved	ug/L	ND	100	49.5	08/21/23 16:43	
Lithium, Dissolved	ug/L	ND	20.0	7.4	08/21/23 16:43	
Magnesium, Dissolved	ug/L	ND	1000	81.9	08/21/23 16:43	
Molybdenum, Dissolved	ug/L	ND	10.0	1.1	08/21/23 16:43	
Potassium, Dissolved	ug/L	ND	1000	257	08/21/23 16:43	

LABORATORY CONTROL SAMPLE: 3434246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron, Dissolved	ug/L	1000	954	95	80-120	
Iron, Dissolved	ug/L	10000	10300	103	80-120	
Lithium, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	10000	10000	100	80-120	
Molybdenum, Dissolved	ug/L	1000	1040	104	80-120	
Potassium, Dissolved	ug/L	10000	9790	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434247 3434248

Parameter	Units	50351050009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron, Dissolved	ug/L	ND	1000	1000	1090	1100	99	100	75-125	2	20	
Iron, Dissolved	ug/L	730	10000	10000	10800	10800	100	101	75-125	1	20	
Lithium, Dissolved	ug/L	ND	1000	1000	1060	1080	106	108	75-125	2	20	
Magnesium, Dissolved	ug/L	79900	10000	10000	87500	92200	76	123	75-125	5	20	
Molybdenum, Dissolved	ug/L	ND	1000	1000	1070	1080	106	107	75-125	1	20	
Potassium, Dissolved	ug/L	4130	10000	10000	15200	15500	110	113	75-125	2	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749205
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50352141001

METHOD BLANK: 3434376 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	ND	10.0	2.8	08/24/23 17:57	
Antimony	ug/L	ND	1.0	0.13	08/23/23 06:29	
Arsenic	ug/L	ND	1.0	0.10	08/23/23 06:29	
Barium	ug/L	ND	1.0	0.14	08/23/23 06:29	
Beryllium	ug/L	ND	0.20	0.026	08/23/23 06:29	
Cobalt	ug/L	ND	1.0	0.082	08/23/23 06:29	
Manganese	ug/L	ND	1.0	0.18	08/23/23 06:29	
Selenium	ug/L	ND	1.0	0.44	08/23/23 06:29	
Thallium	ug/L	ND	1.0	0.072	08/23/23 06:29	

LABORATORY CONTROL SAMPLE: 3434377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	400	386	97	80-120	
Antimony	ug/L	40	41.5	104	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Barium	ug/L	40	39.4	99	80-120	
Beryllium	ug/L	40	39.6	99	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Manganese	ug/L	40	41.3	103	80-120	
Selenium	ug/L	40	38.7	97	80-120	
Thallium	ug/L	40	41.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434378 3434379

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	0.64 mg/L	400	400	1050	1050	104	102	75-125	1	20	E,IC
Antimony	ug/L	<0.0010 mg/L	40	40	42.2	42.0	105	105	75-125	1	20	
Arsenic	ug/L	<0.0010 mg/L	40	40	40.1	40.4	99	100	75-125	1	20	
Barium	ug/L	0.033 mg/L	40	40	72.6	73.1	98	99	75-125	1	20	
Beryllium	ug/L	<0.00020 mg/L	40	40	39.9	40.2	100	100	75-125	1	20	
Cobalt	ug/L	<0.0010 mg/L	40	40	39.8	39.6	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434378 3434379

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	0.0084 mg/L	40	40	49.3	48.9	102	101	75-125	1	20	
Selenium	ug/L	<0.0010 mg/L	40	40	40.6	38.9	100	96	75-125	4	20	
Thallium	ug/L	<0.0010 mg/L	40	40	41.6	41.9	104	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749208
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352141001

METHOD BLANK: 3434390 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	10.0	2.8	08/24/23 17:49	
Manganese, Dissolved	ug/L	ND	1.0	0.18	08/23/23 03:34	

LABORATORY CONTROL SAMPLE: 3434391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	400	395	99	80-120	
Manganese, Dissolved	ug/L	40	41.5	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434392 3434393

Parameter	Units	50351895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	0.018 mg/L	400	400	418	425	100	102	75-125	2	20	IC
Manganese, Dissolved	ug/L	<0.0010 mg/L	40	40	40.9	40.6	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749742
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50352141001

METHOD BLANK: 3436294 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	10.0	08/23/23 22:38	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	10.0	08/23/23 22:38	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	10.0	10.0	08/23/23 22:38	

LABORATORY CONTROL SAMPLE: 3436295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	46.7	93	90-110	

SAMPLE DUPLICATE: 3436296

Parameter	Units	50352246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	319	323	1	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	319	323	1	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 3436297

Parameter	Units	50352141001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	231	235	2	20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	231	235	2	20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749581
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352141001

METHOD BLANK: 3435552 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/23/23 14:54	

LABORATORY CONTROL SAMPLE: 3435553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	295	98	80-120	

SAMPLE DUPLICATE: 3435554

Parameter	Units	50351984011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1700	1680	2	10	

SAMPLE DUPLICATE: 3435555

Parameter	Units	50351988003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	745	757	2	10	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 750723
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: 50352141001

SAMPLE DUPLICATE: 3440560

Parameter	Units	50350056009 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	11.6	11.6	0	2	H3

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749599
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: 50352141001

METHOD BLANK: 3435599 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.025	08/23/23 11:35	

LABORATORY CONTROL SAMPLE: 3435600

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3435601 3435602

Parameter	Units	50352055001 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	0.56	0.54	111	108	90-110	3	20	M0

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749820
QC Batch Method: HACH 8146
Analysis Method: HACH 8146
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50352141001

METHOD BLANK: 3436581 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.20	0.035	08/24/23 10:56	H3,N2

LABORATORY CONTROL SAMPLE: 3436582

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: 3436583 3436584

Parameter	Units	50352055002 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	0.41	1	1	1.4	1.5	101	110	90-110	6	20	H3,N2

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749123
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: 50352141001

METHOD BLANK: 3434047 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.011	08/19/23 15:58	
Nitrogen, Nitrite	mg/L	ND	0.10	0.0040	08/19/23 15:58	

LABORATORY CONTROL SAMPLE: 3434048

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3434049 3434050

Parameter	Units	50352141001 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	0.95	0.95	94	94	90-110	0	20	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	101	101	90-110	0	20	

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(317)228-3100

QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749987
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: 50352141001

METHOD BLANK: 3437572 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phosphate as P04	mg/L	ND	0.15	0.15	08/30/23 18:02	

LABORATORY CONTROL SAMPLE: 3437573

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3437583 3437584

Parameter	Units	50352498001 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	6.3			8.2	7.9				4		

MATRIX SPIKE SAMPLE: 3437585

Parameter	Units	50351957004 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: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 749633
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352141001

METHOD BLANK: 3435811 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.24	08/24/23 13:41	

LABORATORY CONTROL SAMPLE: 3435812

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: 3435813 3435814

Parameter	Units	50351957006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	5.9	80	80	83.1	83.1	97	97	80-120	0	20	

MATRIX SPIKE SAMPLE: 3435815

Parameter	Units	50351957007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	4.6	10	13.9	93	80-120	

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QUALITY CONTROL DATA

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 750432
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50352141001

METHOD BLANK: 3439354 Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.24	08/30/23 14:12	

LABORATORY CONTROL SAMPLE: 3439355

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: 3439356 3439357

Parameter	Units	50351988001 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	13.6	10	10	22.7	22.9	92	93	80-120	1	20	

MATRIX SPIKE SAMPLE: 3439358

Parameter	Units	50351988003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	2.5	10	12.0	96	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352141

Sample: MW-1A **Lab ID: 50352141001** Collected: 08/18/23 16:45 Received: 08/19/23 10:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.50 ± 1.16 (1.70) C:NA T:89%**	pCi/L	09/07/23 14:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.15 ± 0.481 (0.742) C:83% T:81%**	pCi/L	09/06/23 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.65 ± 1.64 (2.44)**	pCi/L	09/12/23 15:15	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 611558
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: 50352141001

METHOD BLANK: 2976778
Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.888 ± 0.338 (0.427) C:82% T:81%	pCi/L	09/06/23 12:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Petersburg P4R6
Pace Project No.: 50352141

QC Batch: 611556
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: 50352141001

METHOD BLANK: 2976776
Matrix: Water
Associated Lab Samples: 50352141001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.278 ± 0.317 (0.499) C:NA T:85%	pCi/L	09/07/23 14:24	

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QUALIFIERS

Project: Petersburg P4R6
Pace Project No.: 50352141

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 P4R6
Pace Project No.: 50352141

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50352141001	**MW-1A**	EPA 9056	749768		
50352141001	**MW-1A**	EPA 3010	749350	EPA 6010	750107
50352141001	**MW-1A**	EPA 3010	749157	EPA 6010	749286
50352141001	**MW-1A**	EPA 200.2	749205	EPA 6020	749467
50352141001	**MW-1A**	EPA 200.2	749208	EPA 6020	749466
50352141001	**MW-1A**	EPA 903.1	611556		
50352141001	**MW-1A**	EPA 904.0	611558		
50352141001	**MW-1A**	Total Radium Calculation	614950		
50352141001	**MW-1A**	SM 2320B	749742		
50352141001	**MW-1A**	SM 2540C	749581		
50352141001	**MW-1A**	SM 4500-H+B	750723		
50352141001	**MW-1A**	SM 4500-S2-D	749599		
50352141001	**MW-1A**	HACH 8146	749820		
50352141001	**MW-1A**	EPA 353.2	749123		
50352141001	**MW-1A**	EPA 365.1	749987	EPA 365.1	750770
50352141001	**MW-1A**	SM 5310C	749633		
50352141001	**MW-1A**	SM 5310C	750432		

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WO# : 50352141

50352141

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CHAIN-OF-CUSTODY / Analytica

The Chain-of-Custody is a LEGAL DOCUMENT. A

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 P4R6	Pace Project Manager:	Will Statz
Requested Due Date:		Project #:	170LF01324	Pace Profile #:	10498/45

Regulatory Agency	
State / Location	IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + ZnAcetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	TDS/ NO2, NO3 Wet	(Cl, F, SO4) IC	Metals, Total*	Metals Diss. Field Filtered**	Alkalinity*, Ferrous Iron, pH	TOC by 5310C	DOC by 5310C	Sulfide	Phosphate	Rad-226/228 + Sum			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-1A	WT	G			8-18	16:45		10	X	X	X		X					X	X	X	X	X	X	X	X						
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Metals: 6010 (Cr, Ca, Mg, Na, K, Li, Sila)	Hayley Tolles / ATLAS	8-18-23	1700 CST	Fedex	8-18-23	1700 CST				
6020 (Be, B, Al, Mn, Co, As, Se, Mo, Cd, Sb, Ba, Tl, Pb)	Fed Ex			Jeff Francis	8/19/23	1050	0.7	4	4	4
** Dissolved FF 6010 (Fe, Mg, K, Li) 6020 (B, Al, Mn, Mo)										
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:	Hayley Tolles					
SIGNATURE of SAMPLER:		DATE Signed: 8-18-23				

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 08/19/23 1210 JS

1. **Courier:** ☑ FED EX ☐ UPS ☐ CLIENT ☐ PACE ☐ NOW/JETT ☐ 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 7 8 A B C D E F G H

4. **Cooler Temperature(s):** 0.7/0.7 | | | |

(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

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

6. **Ice Type:** ☑ Wet ☐ Blue ☐ None

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

Cooler temp should be above freezing to 6°C

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

	Yes	No
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:** Nitrates	✓	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 1255	
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

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

COC Line Item	WGFU	WGKU BG1U	MeOH (only) SBS DI R	DG9H VG9H	VOA VIAL HS >6mm	VG9U DG9U	VG9T	AMBER GLASS AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	PLASTIC BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER CG3H	CG3F	Syringe Kit	Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/Zn Ac >9
1												1	1			1	2	1	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	glass
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass
DG9S	40mL H2SO4 amber vial	CG3U	250mL Unpres Clear Glass
DG9T	40mL Na Thio amber vial	AG0U	100mL unpres amber glass
DG9U	40mL unpreserved amber vial	AG1H	1L HCl amber glass
VG9H	40mL HCl clear vial	AG1S	1L H2SO4 amber glass
VG9T	40mL Na Thio. clear vial	AG1T	1L Na Thiosulfate amber glass
VG9U	40mL unpreserved clear vial	AG1U	1liter unpres amber glass
I	40mL w/hexane wipe vial	AG2N	500mL HNO3 amber glass
WGKU	8oz unpreserved clear jar	AG2S	500mL H2SO4 amber glass
WGFU	4oz clear soil jar	AG2U	500mL unpres amber glass
JGFU	4oz unpreserved amber wide	AG3S	250mL H2SO4 amber glass
CG3H	250mL clear glass HCl	AG3SF	250mL H2SO4 amb glass -field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3U	250mL unpres amber glass
BG1H	1L HCl clear glass	AG3B	250mL NaOH amber glass
BG1S	1L H2SO4 clear glass		

Plastic

BP1B	1L NaOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn, Ac
BP2N	500mL HNO3 plastic
BP2C	500mL NaOH plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Ac
BP3B	250mL NaOH plastic
BP3N	250mL HNO3 plastic
BP3F	250mL HNO3 plastic-field filtered
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, ZnAc plastic
BP3R	250mL Unpres FF SO4/OH buffer
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Appendix C: Statistical Analyses – Prediction Limits Documentation

November 2022

Table C-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	**
Antimony, total (Federal)	ug/L	MW-1	11/07/2022	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	**
Arsenic, total (Federal)	ug/L	MW-1	11/07/2022	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		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total (Federal)	ug/L	MW-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		
Barium, total (Federal)	ug/L	MW-1	11/07/2022		45.7000		
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	**
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	**
Beryllium, total (Federal)	ug/L	MW-1	11/07/2022	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	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total (Federal)	ug/L	MW-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	**
Cadmium, total (Federal)	ug/L	MW-1	11/07/2022	ND	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		
Chromium, total (Federal)	ug/L	MW-1	11/07/2022	ND	10.0000		
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	**

* - 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	
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	**
Cobalt, total (Federal)	ug/L	MW-1	11/07/2022	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		
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	**
Fluoride (Federal)	mg/L	MW-1	11/07/2022		0.1050		
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		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total (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	**
Lead, total (Federal)	ug/L	MW-1	11/07/2022	ND	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		
Lithium, total (Federal)	ug/L	MW-1	11/07/2022	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		
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		

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** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
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Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
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	**
Molybdenum, total (Federal)	ug/L	MW-1	11/07/2022	ND	10.0000	100.0000	**
Selenium, total (Federal)	ug/L	MW-1	09/28/2016	ND	1.6000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	1.0000	**
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	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	02/05/2017	ND	30.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	03/24/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/16/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	06/20/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	08/08/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.9000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/07/2022	ND	1.0000		
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	**

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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	
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	**
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		
Total Radium (Federal)	pCi/L	MW-1	11/07/2022	ND	1.9400	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 C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total (Federal)	ug/L	MW-10	11/07/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-11	11/07/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-12	11/07/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-13	11/08/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-2R	11/07/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-3	11/07/2022	ND	1.0000		1.4000
Antimony, total (Federal)	ug/L	MW-4C	11/08/2022	ND	1.0000		1.4000
Arsenic, total (Federal)	ug/L	MW-10	11/07/2022		90.1000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-11	11/07/2022		9.8000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-12	11/07/2022		1.1000		5.1000
Arsenic, total (Federal)	ug/L	MW-13	11/08/2022	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	11/07/2022		10.0000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-3	11/07/2022		17.3000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-4C	11/08/2022	ND	1.0000		5.1000
Barium, total (Federal)	ug/L	MW-10	11/07/2022		68.1000	***	65.7076
Barium, total (Federal)	ug/L	MW-11	11/07/2022		75.5000	*	65.7076
Barium, total (Federal)	ug/L	MW-12	11/07/2022		28.0000		65.7076
Barium, total (Federal)	ug/L	MW-13	11/08/2022		22.2000		65.7076
Barium, total (Federal)	ug/L	MW-2R	11/07/2022		48.6000		65.7076
Barium, total (Federal)	ug/L	MW-3	11/07/2022		46.1000		65.7076
Barium, total (Federal)	ug/L	MW-4C	11/08/2022		32.6000		65.7076
Beryllium, total (Federal)	ug/L	MW-10	11/07/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-11	11/07/2022		0.6600		1.0000
Beryllium, total (Federal)	ug/L	MW-12	11/07/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-13	11/08/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-2R	11/07/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-3	11/07/2022	ND	0.2000		1.0000
Beryllium, total (Federal)	ug/L	MW-4C	11/08/2022	ND	0.2000		1.0000
Cadmium, total (Federal)	ug/L	MW-10	11/07/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-11	11/07/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-12	11/07/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-13	11/08/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-2R	11/07/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-3	11/07/2022	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-4C	11/08/2022	ND	2.0000		2.0000
Chromium, total (Federal)	ug/L	MW-10	11/07/2022	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	11/07/2022		12.9000	*	10.0000
Chromium, total (Federal)	ug/L	MW-12	11/07/2022	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-13	11/08/2022	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
Chromium, total (Federal)	ug/L	MW-2R	11/07/2022	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-3	11/07/2022	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-4C	11/08/2022	ND	10.0000		10.0000
Cobalt, total (Federal)	ug/L	MW-10	11/07/2022		2.3000		20.0000
Cobalt, total (Federal)	ug/L	MW-11	11/07/2022		2.6000		20.0000
Cobalt, total (Federal)	ug/L	MW-12	11/07/2022	ND	1.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-13	11/08/2022	ND	1.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-2R	11/07/2022		2.0000		20.0000
Cobalt, total (Federal)	ug/L	MW-3	11/07/2022		2.6000		20.0000
Cobalt, total (Federal)	ug/L	MW-4C	11/08/2022		1.1000		20.0000
Fluoride (Federal)	mg/L	MW-10	11/07/2022		0.4750		5.0000
Fluoride (Federal)	mg/L	MW-11	11/07/2022		0.1550		5.0000
Fluoride (Federal)	mg/L	MW-12	11/07/2022		0.1200		5.0000
Fluoride (Federal)	mg/L	MW-13	11/08/2022		0.7550		5.0000
Fluoride (Federal)	mg/L	MW-2R	11/07/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-3	11/07/2022	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-4C	11/08/2022		0.1800		5.0000
Lead, total (Federal)	ug/L	MW-10	11/07/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	11/07/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-12	11/07/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-13	11/08/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-2R	11/07/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-3	11/07/2022	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-4C	11/08/2022	ND	10.0000		10.0000
Lithium, total (Federal)	ug/L	MW-10	11/07/2022		44.6000	***	20.0000
Lithium, total (Federal)	ug/L	MW-11	11/07/2022	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-12	11/07/2022	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	11/08/2022		385.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/07/2022		812.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-3	11/07/2022		1980.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-4C	11/08/2022		411.0000	***	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	11/07/2022		14.7000		100.0000

* - 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
Molybdenum, total (Federal)	ug/L	MW-11	11/07/2022	ND	10.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-12	11/07/2022	ND	10.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-13	11/08/2022		65.2000		100.0000
Molybdenum, total (Federal)	ug/L	MW-2R	11/07/2022		10.7000		100.0000
Molybdenum, total (Federal)	ug/L	MW-3	11/07/2022		304.0000	***	100.0000
Molybdenum, total (Federal)	ug/L	MW-4C	11/08/2022	ND	10.0000		100.0000
Selenium, total (Federal)	ug/L	MW-10	11/07/2022		1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-11	11/07/2022		5.5000		8.6000
Selenium, total (Federal)	ug/L	MW-12	11/07/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-13	11/08/2022		8.6000		8.6000
Selenium, total (Federal)	ug/L	MW-2R	11/07/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-3	11/07/2022	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-4C	11/08/2022	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	11/07/2022		1.0600		2.6000
Total Radium (Federal)	pCi/L	MW-11	11/07/2022		4.0100	*	2.6000
Total Radium (Federal)	pCi/L	MW-12	11/07/2022	ND	1.1000		2.6000
Total Radium (Federal)	pCi/L	MW-13	11/08/2022	ND	1.4700		2.6000
Total Radium (Federal)	pCi/L	MW-2R	11/07/2022		1.0600		2.6000
Total Radium (Federal)	pCi/L	MW-3	11/07/2022		0.6450		2.6000
Total Radium (Federal)	pCi/L	MW-4C	11/08/2022		0.6990		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 C-3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total (Federal)	0	19	0.000	3	136	0.022
Arsenic, total (Federal)	2	19	0.105	51	136	0.375
Barium, total (Federal)	19	19	1.000	135	136	0.993
Beryllium, total (Federal)	0	19	0.000	9	136	0.066
Cadmium, total (Federal)	0	19	0.000	2	136	0.015
Chromium, total (Federal)	1	16	0.063	4	115	0.035
Cobalt, total (Federal)	0	19	0.000	35	136	0.257
Fluoride (Federal)	6	19	0.316	48	136	0.353
Lead, total (Federal)	0	18	0.000	7	129	0.054
Lithium, total (Federal)	2	19	0.105	83	136	0.610
Mercury, total (Federal)	1	15	0.067	4	108	0.037
Molybdenum, total (Federal)	0	19	0.000	43	136	0.316
Selenium, total (Federal)	1	19	0.053	38	136	0.279
Thallium, total (Federal)	0	18	0.000	3	129	0.023
Total Radium (Federal)	8	18	0.444	86	131	0.656

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table C-4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Arsenic, total (Federal)	2	19	0.105	7.831	7.867					2.326	non-norm	nonpar
Barium, total (Federal)	19	19	1.000	0.690	2.035					2.326	normal	normal
Beryllium, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Cadmium, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Chromium, total (Federal)	1	16	0.063	4.567	4.567					2.326	non-norm	nonpar
Cobalt, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Fluoride (Federal)	6	19	0.316	5.302	5.175					2.326	non-norm	nonpar
Lead, total (Federal)	0	18	0.000	4.885	4.885					2.326	non-norm	nonpar
Lithium, total (Federal)	2	19	0.105	7.965	7.891					2.326	non-norm	nonpar
Mercury, total (Federal)	1	15	0.067	4.373	4.373					2.326	non-norm	nonpar
Molybdenum, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Selenium, total (Federal)	1	19	0.053	24.856	24.856					2.326	non-norm	nonpar
Thallium, total (Federal)	0	18	0.000	4.885	4.885					2.326	non-norm	nonpar
Total Radium (Federal)	8	18	0.444	3.394	2.666					2.326	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 (Federal)	ug/L	0	19					1.4000	nonpar	***	0.97
Arsenic, total (Federal)	ug/L	2	19					5.1000	nonpar		0.97
Barium, total (Federal)	ug/L	19	19	47.9211	6.7954	0.0100	2.6174	65.7076	normal		
Beryllium, total (Federal)	ug/L	0	19					1.0000	nonpar	***	0.97
Cadmium, total (Federal)	ug/L	0	19					2.0000	nonpar	***	0.97
Chromium, total (Federal)	ug/L	1	16					10.0000	nonpar	***	0.96
Cobalt, total (Federal)	ug/L	0	19					20.0000	nonpar	***	0.97
Fluoride (Federal)	mg/L	6	19					5.0000	nonpar	***	0.97
Lead, total (Federal)	ug/L	0	18					10.0000	nonpar	***	0.97
Lithium, total (Federal)	ug/L	2	19					20.0000	nonpar	***	0.97
Mercury, total (Federal)	ug/L	1	15					0.6700	nonpar		0.95
Molybdenum, total (Federal)	ug/L	0	19					100.0000	nonpar	***	0.97
Selenium, total (Federal)	ug/L	1	19					8.6000	nonpar		0.97
Thallium, total (Federal)	ug/L	0	18					1.0000	nonpar	***	0.97
Total Radium (Federal)	pCi/L	8	18					2.6000	nonpar		0.97

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
Total Radium (Federal)	pCi/L	MW-1	06/20/2017	4.4600		09/28/2016-11/07/2022	19	0.5503

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table C-7

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
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-10	11/07/2022		90.1000	*	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-11	11/07/2022		9.8000	*	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 (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-2R	11/07/2022		10.0000	*	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
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

* - Significantly increased over background.
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*** - 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 (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
Arsenic, total (Federal)	ug/L	MW-3	11/07/2022		17.3000	*	5.1000
Barium, total (Federal)	ug/L	MW-10	03/16/2017		140.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	03/17/2017		160.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	03/24/2017		130.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	04/20/2017		110.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	04/24/2017		140.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	05/25/2017		130.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	06/20/2017		130.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	07/19/2017		99.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	08/08/2017		110.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	05/09/2018		68.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	09/12/2018		64.0000		65.7076
Barium, total (Federal)	ug/L	MW-10	05/17/2019		41.2000		65.7076
Barium, total (Federal)	ug/L	MW-10	11/06/2019		150.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	05/05/2020		68.5000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	11/04/2020		69.8000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	05/05/2021		120.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	11/02/2021		86.2000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	05/04/2022		102.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-10	11/07/2022		68.1000	*	65.7076
Barium, total (Federal)	ug/L	MW-11	03/16/2017		34.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	03/17/2017		34.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	03/24/2017		30.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	04/20/2017		34.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	04/24/2017		29.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	05/25/2017		32.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	06/20/2017		27.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	07/19/2017		25.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	08/08/2017		28.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	05/09/2018		27.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	09/12/2018		30.0000		65.7076
Barium, total (Federal)	ug/L	MW-11	05/17/2019		30.2000		65.7076
Barium, total (Federal)	ug/L	MW-11	11/06/2019		58.5000		65.7076
Barium, total (Federal)	ug/L	MW-11	05/05/2020		30.7000		65.7076
Barium, total (Federal)	ug/L	MW-11	11/04/2020		89.2000	*	65.7076
Barium, total (Federal)	ug/L	MW-11	05/06/2021		42.8000		65.7076

* - Significantly increased over background.
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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
Barium, total (Federal)	ug/L	MW-11	11/02/2021		100.0000	*	65.7076
Barium, total (Federal)	ug/L	MW-11	05/04/2022		30.5000		65.7076
Barium, total (Federal)	ug/L	MW-11	11/07/2022		75.5000	*	65.7076
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
Chromium, total (Federal)	ug/L	MW-11	11/07/2022		12.9000	*	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-10	11/07/2022		44.6000	*	20.0000

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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
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
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-13	11/08/2022		385.0000	*	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

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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
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-2R	11/07/2022		812.0000	*	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-3	11/07/2022		1980.0000	*	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
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

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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
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
Lithium, total (Federal)	ug/L	MW-4C	11/08/2022		411.0000	*	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
Molybdenum, total (Federal)	ug/L	MW-3	11/07/2022		304.0000	*	100.0000
Total Radium (Federal)	pCi/L	MW-11	03/16/2017	ND	0.7000		2.6000
Total Radium (Federal)	pCi/L	MW-11	03/17/2017		2.1200		2.6000
Total Radium (Federal)	pCi/L	MW-11	03/24/2017	ND	0.5600		2.6000
Total Radium (Federal)	pCi/L	MW-11	03/25/2017	ND	0.6400		2.6000
Total Radium (Federal)	pCi/L	MW-11	04/20/2017	ND	0.5300		2.6000
Total Radium (Federal)	pCi/L	MW-11	04/24/2017		1.3600		2.6000
Total Radium (Federal)	pCi/L	MW-11	06/20/2017		1.1900		2.6000
Total Radium (Federal)	pCi/L	MW-11	07/19/2017		0.7300		2.6000
Total Radium (Federal)	pCi/L	MW-11	08/08/2017		1.2600		2.6000
Total Radium (Federal)	pCi/L	MW-11	05/09/2018	ND	1.0000		2.6000
Total Radium (Federal)	pCi/L	MW-11	09/12/2018	ND	1.0000		2.6000
Total Radium (Federal)	pCi/L	MW-11	05/17/2019	ND	1.4300		2.6000
Total Radium (Federal)	pCi/L	MW-11	11/06/2019		6.3800	*	2.6000
Total Radium (Federal)	pCi/L	MW-11	05/05/2020		0.8680		2.6000
Total Radium (Federal)	pCi/L	MW-11	11/04/2020		1.3400		2.6000
Total Radium (Federal)	pCi/L	MW-11	05/06/2021	ND	1.7700		2.6000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

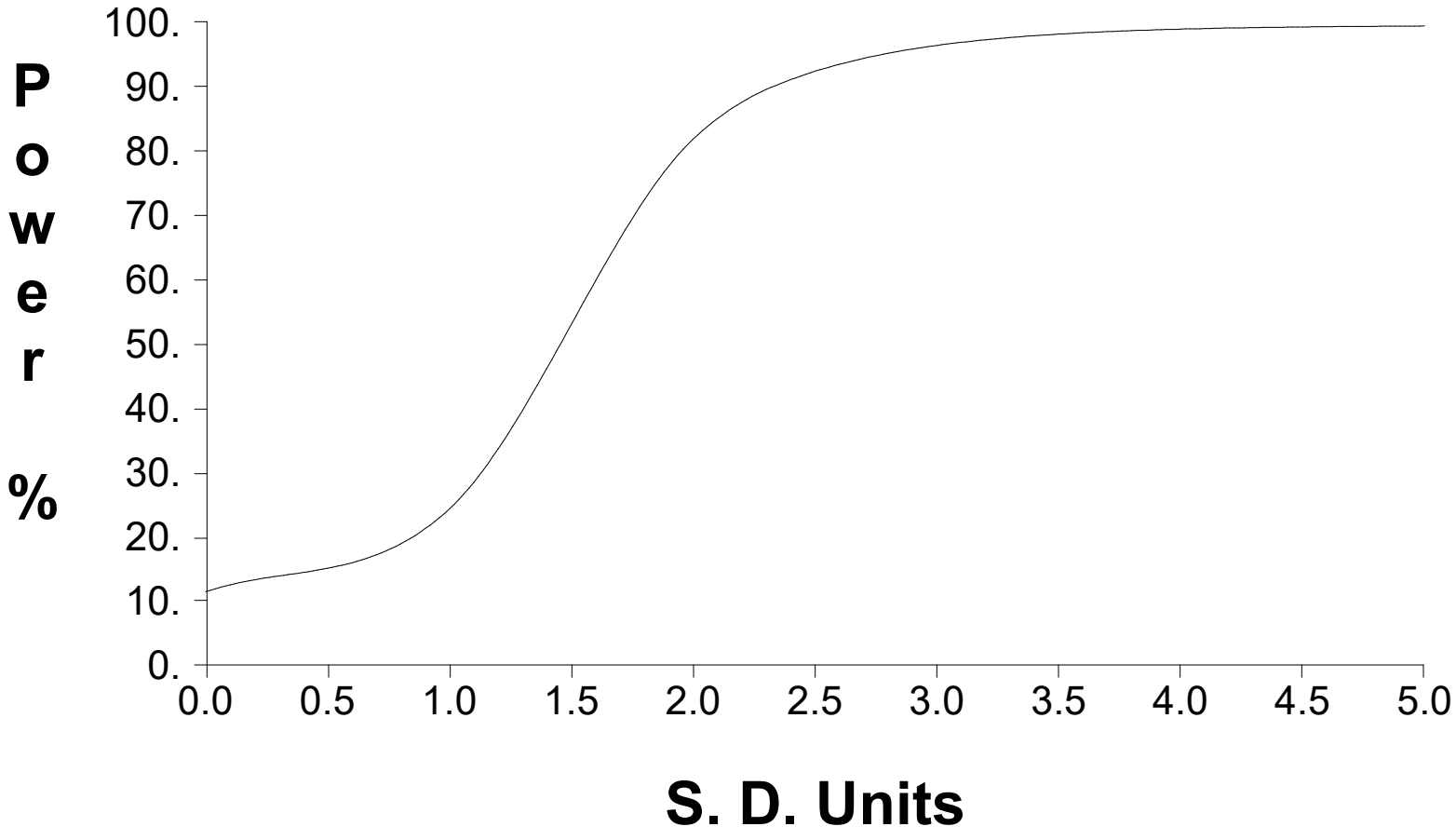
Table C-7

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
Total Radium (Federal)	pCi/L	MW-11	11/02/2021	ND	1.4900		2.6000
Total Radium (Federal)	pCi/L	MW-11	05/04/2022	ND	1.5200		2.6000
Total Radium (Federal)	pCi/L	MW-11	11/07/2022		4.0100	*	2.6000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



May-June 2023

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total (Federal)	ug/L	MW-1	09/28/2016	ND	0.0500	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	10/19/2016	ND	50.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	11/09/2016	ND	50.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	12/12/2016	ND	5.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	02/05/2017	ND	6.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	03/24/2017	ND	6.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	05/16/2017	ND	6.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	06/20/2017	ND	6.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	08/08/2017	ND	6.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	09/12/2018	ND	1.4000	1.0000	**
Antimony, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	11/07/2022	ND	1.0000		
Antimony, total (Federal)	ug/L	MW-1	05/02/2023	ND	1.0000		
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	1.0000	**
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	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	02/05/2017	ND	10.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	03/24/2017	ND	10.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	05/16/2017	ND	10.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	06/20/2017	ND	10.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	08/08/2017	ND	10.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	09/12/2018	ND	1.2000	1.0000	**
Arsenic, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	11/07/2022	ND	1.0000		
Arsenic, total (Federal)	ug/L	MW-1	05/02/2023	ND	1.0000		
Barium, total (Federal)	ug/L	MW-1	09/28/2016		43.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total (Federal)	ug/L	MW-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		
Barium, total (Federal)	ug/L	MW-1	11/07/2022		45.7000		
Barium, total (Federal)	ug/L	MW-1	05/02/2023		50.5000		
Beryllium, total (Federal)	ug/L	MW-1	09/28/2016	ND	10.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	11/09/2016	ND	10.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	12/12/2016	ND	10.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	02/05/2017	ND	4.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	03/24/2017	ND	1.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/16/2017	ND	1.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	06/20/2017	ND	1.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	08/08/2017	ND	1.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.6500		
Beryllium, total (Federal)	ug/L	MW-1	05/17/2019	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	11/06/2019	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/06/2020	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	11/03/2020	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/05/2021	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	11/01/2021	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/04/2022	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	11/07/2022	ND	0.2000	0.6500	**
Beryllium, total (Federal)	ug/L	MW-1	05/02/2023	ND	0.2000	0.6500	**
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	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total (Federal)	ug/L	MW-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	**
Cadmium, total (Federal)	ug/L	MW-1	11/07/2022	ND	2.0000		
Cadmium, total (Federal)	ug/L	MW-1	05/02/2023	ND	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		
Chromium, total (Federal)	ug/L	MW-1	11/07/2022	ND	10.0000		
Chromium, total (Federal)	ug/L	MW-1	05/02/2023	ND	10.0000		
Cobalt, total (Federal)	ug/L	MW-1	09/28/2016	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	10/19/2016	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	11/09/2016	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	12/12/2016	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	02/05/2017	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	03/24/2017	ND	20.0000	3.6000	**

* - 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	
Cobalt, total (Federal)	ug/L	MW-1	05/16/2017	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	06/20/2017	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	08/08/2017	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	05/10/2018	ND	20.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	09/12/2018	ND	3.6000		
Cobalt, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	05/06/2020	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	11/07/2022	ND	1.0000	3.6000	**
Cobalt, total (Federal)	ug/L	MW-1	05/02/2023	ND	1.0000	3.6000	**
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		
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	**
Fluoride (Federal)	mg/L	MW-1	11/07/2022		0.1050		
Fluoride (Federal)	mg/L	MW-1	05/02/2023		0.1200		
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		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total (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	**
Lead, total (Federal)	ug/L	MW-1	11/07/2022	ND	10.0000		
Lead, total (Federal)	ug/L	MW-1	05/02/2023	ND	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		
Lithium, total (Federal)	ug/L	MW-1	11/07/2022	ND	20.0000		
Lithium, total (Federal)	ug/L	MW-1	05/02/2023	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		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Mercury, total (Federal)	ug/L	MW-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		
Mercury, total (Federal)	ug/L	MW-1	05/02/2023	ND	0.2000		
Molybdenum, total (Federal)	ug/L	MW-1	09/28/2016	ND	100.0000		
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	**
Molybdenum, total (Federal)	ug/L	MW-1	11/07/2022	ND	10.0000	100.0000	**
Molybdenum, total (Federal)	ug/L	MW-1	05/02/2023	ND	10.0000	100.0000	**
Selenium, total (Federal)	ug/L	MW-1	09/28/2016	ND	1.6000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	10/19/2016	ND	10.0000	1.0000	**
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	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	02/05/2017	ND	30.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	03/24/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/16/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	06/20/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	08/08/2017	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/10/2018	ND	5.0000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	09/12/2018	ND	0.9000	1.0000	**
Selenium, total (Federal)	ug/L	MW-1	05/17/2019	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/06/2019	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/06/2020	ND	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	
Selenium, total (Federal)	ug/L	MW-1	11/03/2020	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/05/2021	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/01/2021	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/04/2022	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	11/07/2022	ND	1.0000		
Selenium, total (Federal)	ug/L	MW-1	05/02/2023	ND	1.0000		
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		
Thallium, total (Federal)	ug/L	MW-1	05/02/2023	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	1.6300	**
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	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	09/12/2018	ND	1.0000	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	05/17/2019	ND	1.7800	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	11/06/2019	ND	1.4700	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	05/06/2020	ND	1.8200	1.6300	**
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	1.6300	**

* - 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	
Total Radium (Federal)	pCi/L	MW-1	11/01/2021	ND	1.9100	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	05/04/2022	ND	1.5100	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	11/07/2022	ND	1.9400	1.6300	**
Total Radium (Federal)	pCi/L	MW-1	05/02/2023	ND	1.6300		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table C-2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total (Federal)	ug/L	MW-10	05/02/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-11	05/02/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-12	05/02/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-13	05/02/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-2R	05/09/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-3	05/07/2023	ND	1.0000		1.0000
Antimony, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		1.0000
Arsenic, total (Federal)	ug/L	MW-10	05/02/2023		67.7000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/02/2023	ND	1.0000	**	5.1000
Arsenic, total (Federal)	ug/L	MW-12	05/02/2023		1.9000		5.1000
Arsenic, total (Federal)	ug/L	MW-13	05/02/2023	ND	1.0000		5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/09/2023		78.0000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/07/2023		32.3000	***	5.1000
Arsenic, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		5.1000
Barium, total (Federal)	ug/L	MW-10	05/02/2023		67.4000	***	65.3196
Barium, total (Federal)	ug/L	MW-11	05/02/2023		34.5000	**	65.3196
Barium, total (Federal)	ug/L	MW-12	05/02/2023		34.9000		65.3196
Barium, total (Federal)	ug/L	MW-13	05/02/2023		18.5000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/09/2023		80.4000	*	65.3196
Barium, total (Federal)	ug/L	MW-3	05/07/2023		61.6000		65.3196
Barium, total (Federal)	ug/L	MW-4C	05/09/2023		27.5000		65.3196
Beryllium, total (Federal)	ug/L	MW-10	05/02/2023	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/02/2023	ND	0.2000	**	0.6500
Beryllium, total (Federal)	ug/L	MW-12	05/02/2023	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-13	05/02/2023	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-2R	05/09/2023	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-3	05/07/2023	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-4C	05/09/2023	ND	0.2000		0.6500
Cadmium, total (Federal)	ug/L	MW-10	05/02/2023	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-11	05/02/2023	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-12	05/02/2023	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-13	05/02/2023	ND	2.0000		2.0000
Cadmium, total (Federal)	ug/L	MW-2R	05/09/2023	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-3	05/07/2023	ND	0.2000		2.0000
Cadmium, total (Federal)	ug/L	MW-4C	05/09/2023		0.3900		2.0000
Chromium, total (Federal)	ug/L	MW-10	05/02/2023	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-11	05/02/2023	ND	10.0000	**	10.0000
Chromium, total (Federal)	ug/L	MW-12	05/02/2023	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-13	05/02/2023	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
Chromium, total (Federal)	ug/L	MW-2R	05/09/2023	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-3	05/07/2023	ND	10.0000		10.0000
Chromium, total (Federal)	ug/L	MW-4C	05/09/2023	ND	10.0000		10.0000
Cobalt, total (Federal)	ug/L	MW-10	05/02/2023		2.1000		3.6000
Cobalt, total (Federal)	ug/L	MW-11	05/02/2023	ND	1.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-12	05/02/2023		1.2000		3.6000
Cobalt, total (Federal)	ug/L	MW-13	05/02/2023	ND	1.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/09/2023		3.7000	*	3.6000
Cobalt, total (Federal)	ug/L	MW-3	05/07/2023		2.3000		3.6000
Cobalt, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		3.6000
Fluoride (Federal)	mg/L	MW-10	05/02/2023		0.2300		5.0000
Fluoride (Federal)	mg/L	MW-11	05/02/2023		0.1400		5.0000
Fluoride (Federal)	mg/L	MW-12	05/02/2023		0.1600		5.0000
Fluoride (Federal)	mg/L	MW-13	05/02/2023		0.6600		5.0000
Fluoride (Federal)	mg/L	MW-2R	05/09/2023	ND	0.1000		5.0000
Fluoride (Federal)	mg/L	MW-3	05/07/2023		0.1400		5.0000
Fluoride (Federal)	mg/L	MW-4C	05/09/2023	ND	0.1000		5.0000
Lead, total (Federal)	ug/L	MW-10	05/02/2023	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-11	05/02/2023	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-12	05/02/2023	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-13	05/02/2023	ND	10.0000		10.0000
Lead, total (Federal)	ug/L	MW-2R	05/09/2023	ND	1.0000		10.0000
Lead, total (Federal)	ug/L	MW-3	05/07/2023	ND	1.0000		10.0000
Lead, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		10.0000
Lithium, total (Federal)	ug/L	MW-10	05/02/2023		34.5000	***	20.0000
Lithium, total (Federal)	ug/L	MW-11	05/02/2023	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-12	05/02/2023	ND	20.0000		20.0000
Lithium, total (Federal)	ug/L	MW-13	05/02/2023		62.3000	***	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/09/2023		703.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/07/2023		1710.0000	***	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/09/2023		351.0000	***	20.0000
Mercury, total (Federal)	ug/L	MW-10	05/02/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-11	05/02/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-12	05/02/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-13	05/02/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-2R	05/09/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-3	05/07/2023	ND	0.2000		0.6700
Mercury, total (Federal)	ug/L	MW-4C	05/09/2023	ND	0.2000		0.6700
Molybdenum, total (Federal)	ug/L	MW-10	05/02/2023		15.7000		100.0000

* - 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
Molybdenum, total (Federal)	ug/L	MW-11	05/02/2023	ND	10.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-12	05/02/2023	ND	10.0000		100.0000
Molybdenum, total (Federal)	ug/L	MW-13	05/02/2023		39.8000		100.0000
Molybdenum, total (Federal)	ug/L	MW-2R	05/09/2023		10.4000		100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/07/2023		345.0000	***	100.0000
Molybdenum, total (Federal)	ug/L	MW-4C	05/09/2023		8.2000		100.0000
Selenium, total (Federal)	ug/L	MW-10	05/02/2023	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-11	05/02/2023		4.6000		8.6000
Selenium, total (Federal)	ug/L	MW-12	05/02/2023	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-13	05/02/2023		5.8000		8.6000
Selenium, total (Federal)	ug/L	MW-2R	05/09/2023	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-3	05/07/2023	ND	1.0000		8.6000
Selenium, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		8.6000
Thallium, total (Federal)	ug/L	MW-10	05/02/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-11	05/02/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-12	05/02/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-13	05/02/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-2R	05/09/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-3	05/07/2023	ND	1.0000		1.0000
Thallium, total (Federal)	ug/L	MW-4C	05/09/2023	ND	1.0000		1.0000
Total Radium (Federal)	pCi/L	MW-10	05/02/2023		1.7800		4.4600
Total Radium (Federal)	pCi/L	MW-11	05/02/2023	ND	1.7300		4.4600
Total Radium (Federal)	pCi/L	MW-12	05/02/2023		0.6410		4.4600
Total Radium (Federal)	pCi/L	MW-13	05/02/2023	ND	1.6600		4.4600
Total Radium (Federal)	pCi/L	MW-2R	05/09/2023		1.4200		4.4600
Total Radium (Federal)	pCi/L	MW-3	05/07/2023		0.9250		4.4600
Total Radium (Federal)	pCi/L	MW-4C	05/09/2023		0.8620		4.4600

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table C-3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Detect	Upgradient N	Proportion	Detect	Downgradient N	Proportion
Antimony, total (Federal)	0	20	0.000	3	143	0.021
Arsenic, total (Federal)	2	20	0.100	55	143	0.385
Barium, total (Federal)	20	20	1.000	142	143	0.993
Beryllium, total (Federal)	0	20	0.000	9	143	0.063
Cadmium, total (Federal)	0	20	0.000	3	143	0.021
Chromium, total (Federal)	1	17	0.059	4	122	0.033
Cobalt, total (Federal)	0	20	0.000	39	143	0.273
Fluoride (Federal)	7	20	0.350	53	143	0.371
Lead, total (Federal)	0	19	0.000	7	136	0.051
Lithium, total (Federal)	2	20	0.100	88	143	0.615
Mercury, total (Federal)	1	16	0.063	4	115	0.035
Molybdenum, total (Federal)	0	20	0.000	48	143	0.336
Selenium, total (Federal)	1	20	0.050	40	143	0.280
Thallium, total (Federal)	0	19	0.000	3	136	0.022
Total Radium (Federal)	9	20	0.450	91	138	0.659

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table C-4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total (Federal)	0	20	0.000	5.153	5.153					2.326	non-norm	nonpar
Arsenic, total (Federal)	2	20	0.100	8.070	8.115					2.326	non-norm	nonpar
Barium, total (Federal)	20	20	1.000	0.899	2.243					2.326	normal	normal
Beryllium, total (Federal)	0	20	0.000	5.153	5.153					2.326	non-norm	nonpar
Cadmium, total (Federal)	0	20	0.000	5.153	5.153					2.326	non-norm	nonpar
Chromium, total (Federal)	1	17	0.059	21.983	21.983					2.326	non-norm	nonpar
Cobalt, total (Federal)	0	20	0.000	5.153	5.153					2.326	non-norm	nonpar
Fluoride (Federal)	7	20	0.350	5.236	5.100					2.326	non-norm	nonpar
Lead, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Lithium, total (Federal)	2	20	0.100	8.197	8.126					2.326	non-norm	nonpar
Mercury, total (Federal)	1	16	0.063	4.567	4.567					2.326	non-norm	nonpar
Molybdenum, total (Federal)	0	20	0.000	5.153	5.153					2.326	non-norm	nonpar
Selenium, total (Federal)	1	20	0.050	27.777	27.777					2.326	non-norm	nonpar
Thallium, total (Federal)	0	19	0.000	5.018	5.018					2.326	non-norm	nonpar
Total Radium (Federal)	9	20	0.450	5.099	3.198					2.326	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 (Federal)	ug/L	0	20					1.0000	nonpar	***	0.97
Arsenic, total (Federal)	ug/L	2	20					5.1000	nonpar		0.97
Barium, total (Federal)	ug/L	20	20	48.0500	6.6392	0.0100	2.6011	65.3196	normal		
Beryllium, total (Federal)	ug/L	0	20					0.6500	nonpar	***	0.97
Cadmium, total (Federal)	ug/L	0	20					2.0000	nonpar	***	0.97
Chromium, total (Federal)	ug/L	1	17					10.0000	nonpar	***	0.96
Cobalt, total (Federal)	ug/L	0	20					3.6000	nonpar	***	0.97
Fluoride (Federal)	mg/L	7	20					5.0000	nonpar	***	0.97
Lead, total (Federal)	ug/L	0	19					10.0000	nonpar	***	0.97
Lithium, total (Federal)	ug/L	2	20					20.0000	nonpar	***	0.97
Mercury, total (Federal)	ug/L	1	16					0.6700	nonpar		0.96
Molybdenum, total (Federal)	ug/L	0	20					100.0000	nonpar	***	0.97
Selenium, total (Federal)	ug/L	1	20					8.6000	nonpar		0.97
Thallium, total (Federal)	ug/L	0	19					1.0000	nonpar	***	0.97
Total Radium (Federal)	pCi/L	9	20					4.4600	nonpar		0.97

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 (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-10	11/07/2022		90.1000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-10	05/02/2023		67.7000	*	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

* - 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 (Federal)	ug/L	MW-11	11/07/2022		9.8000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-11	05/02/2023	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-2R	11/07/2022		10.0000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-2R	05/09/2023		78.0000	*	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
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

* - 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 (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
Arsenic, total (Federal)	ug/L	MW-3	11/07/2022		17.3000	*	5.1000
Arsenic, total (Federal)	ug/L	MW-3	05/07/2023		32.3000	*	5.1000
Barium, total (Federal)	ug/L	MW-10	03/16/2017		140.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	03/17/2017		160.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	03/24/2017		130.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	04/20/2017		110.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	04/24/2017		140.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/25/2017		130.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	06/20/2017		130.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	07/19/2017		99.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	08/08/2017		110.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/09/2018		68.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	09/12/2018		64.0000		65.3196
Barium, total (Federal)	ug/L	MW-10	05/17/2019		41.2000		65.3196
Barium, total (Federal)	ug/L	MW-10	11/06/2019		150.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/05/2020		68.5000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	11/04/2020		69.8000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/05/2021		120.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	11/02/2021		86.2000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/04/2022		102.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	11/07/2022		68.1000	*	65.3196
Barium, total (Federal)	ug/L	MW-10	05/02/2023		67.4000	*	65.3196
Barium, total (Federal)	ug/L	MW-11	03/16/2017		34.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	03/17/2017		34.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	03/24/2017		30.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	04/20/2017		34.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	04/24/2017		29.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	05/25/2017		32.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	06/20/2017		27.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	07/19/2017		25.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	08/08/2017		28.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	05/09/2018		27.0000		65.3196
Barium, total (Federal)	ug/L	MW-11	09/12/2018		30.0000		65.3196

* - 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
Barium, total (Federal)	ug/L	MW-11	05/17/2019		30.2000		65.3196
Barium, total (Federal)	ug/L	MW-11	11/06/2019		58.5000		65.3196
Barium, total (Federal)	ug/L	MW-11	05/05/2020		30.7000		65.3196
Barium, total (Federal)	ug/L	MW-11	11/04/2020		89.2000	*	65.3196
Barium, total (Federal)	ug/L	MW-11	05/06/2021		42.8000		65.3196
Barium, total (Federal)	ug/L	MW-11	11/02/2021		100.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-11	05/04/2022		30.5000		65.3196
Barium, total (Federal)	ug/L	MW-11	11/07/2022		75.5000	*	65.3196
Barium, total (Federal)	ug/L	MW-11	05/02/2023		34.5000		65.3196
Barium, total (Federal)	ug/L	MW-2R	09/28/2016		43.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	10/19/2016		37.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	11/09/2016		37.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	12/12/2016		29.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	03/16/2017		53.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	03/17/2017		66.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-2R	03/24/2017		54.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	04/20/2017		46.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	04/24/2017		56.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/16/2017		46.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	06/20/2017		45.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	08/08/2017		42.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/09/2018		73.0000	*	65.3196
Barium, total (Federal)	ug/L	MW-2R	09/12/2018		44.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/16/2019		35.5000		65.3196
Barium, total (Federal)	ug/L	MW-2R	11/06/2019		39.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/13/2020		42.5000		65.3196
Barium, total (Federal)	ug/L	MW-2R	11/03/2020		45.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/05/2021		44.6000		65.3196
Barium, total (Federal)	ug/L	MW-2R	11/01/2021		54.0000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/08/2022		45.2000		65.3196
Barium, total (Federal)	ug/L	MW-2R	11/07/2022		48.6000		65.3196
Barium, total (Federal)	ug/L	MW-2R	05/09/2023		80.4000	*	65.3196
Beryllium, total (Federal)	ug/L	MW-11	03/16/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	03/17/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	03/24/2017	ND	4.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	04/20/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	04/24/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/25/2017	ND	1.0000		0.6500

* - 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
Beryllium, total (Federal)	ug/L	MW-11	06/20/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	07/19/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	08/08/2017	ND	1.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/09/2018	ND	5.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	09/12/2018	ND	5.0000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/17/2019	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	11/06/2019		0.6300		0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/05/2020	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	11/04/2020		0.8900	*	0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/06/2021	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	11/02/2021		1.0000	*	0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/04/2022	ND	0.2000		0.6500
Beryllium, total (Federal)	ug/L	MW-11	11/07/2022		0.6600	*	0.6500
Beryllium, total (Federal)	ug/L	MW-11	05/02/2023	ND	0.2000		0.6500
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
Chromium, total (Federal)	ug/L	MW-11	11/07/2022		12.9000	*	10.0000
Chromium, total (Federal)	ug/L	MW-11	05/02/2023	ND	10.0000		10.0000
Cobalt, total (Federal)	ug/L	MW-2R	09/28/2016	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	10/19/2016	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	11/09/2016	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	12/12/2016	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	03/16/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	03/17/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	03/24/2017	ND	20.0000		3.6000

* - 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
Cobalt, total (Federal)	ug/L	MW-2R	04/20/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	04/24/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/16/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	06/20/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	08/08/2017	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/09/2018	ND	20.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	09/12/2018	ND	3.6000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/16/2019		3.3000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	11/06/2019		3.1000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/13/2020		2.8000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	11/03/2020		3.1000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/05/2021		2.9000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	11/01/2021		2.2000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/08/2022		3.3000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	11/07/2022		2.0000		3.6000
Cobalt, total (Federal)	ug/L	MW-2R	05/09/2023		3.7000	*	3.6000
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-10	11/07/2022		44.6000	*	20.0000
Lithium, total (Federal)	ug/L	MW-10	05/02/2023		34.5000	*	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

* - 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
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
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-13	11/08/2022		385.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-13	05/02/2023		62.3000	*	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

* - 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
Lithium, total (Federal)	ug/L	MW-2R	05/08/2022		897.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	11/07/2022		812.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-2R	05/09/2023		703.0000	*	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-3	11/07/2022		1980.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-3	05/07/2023		1710.0000	*	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
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

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

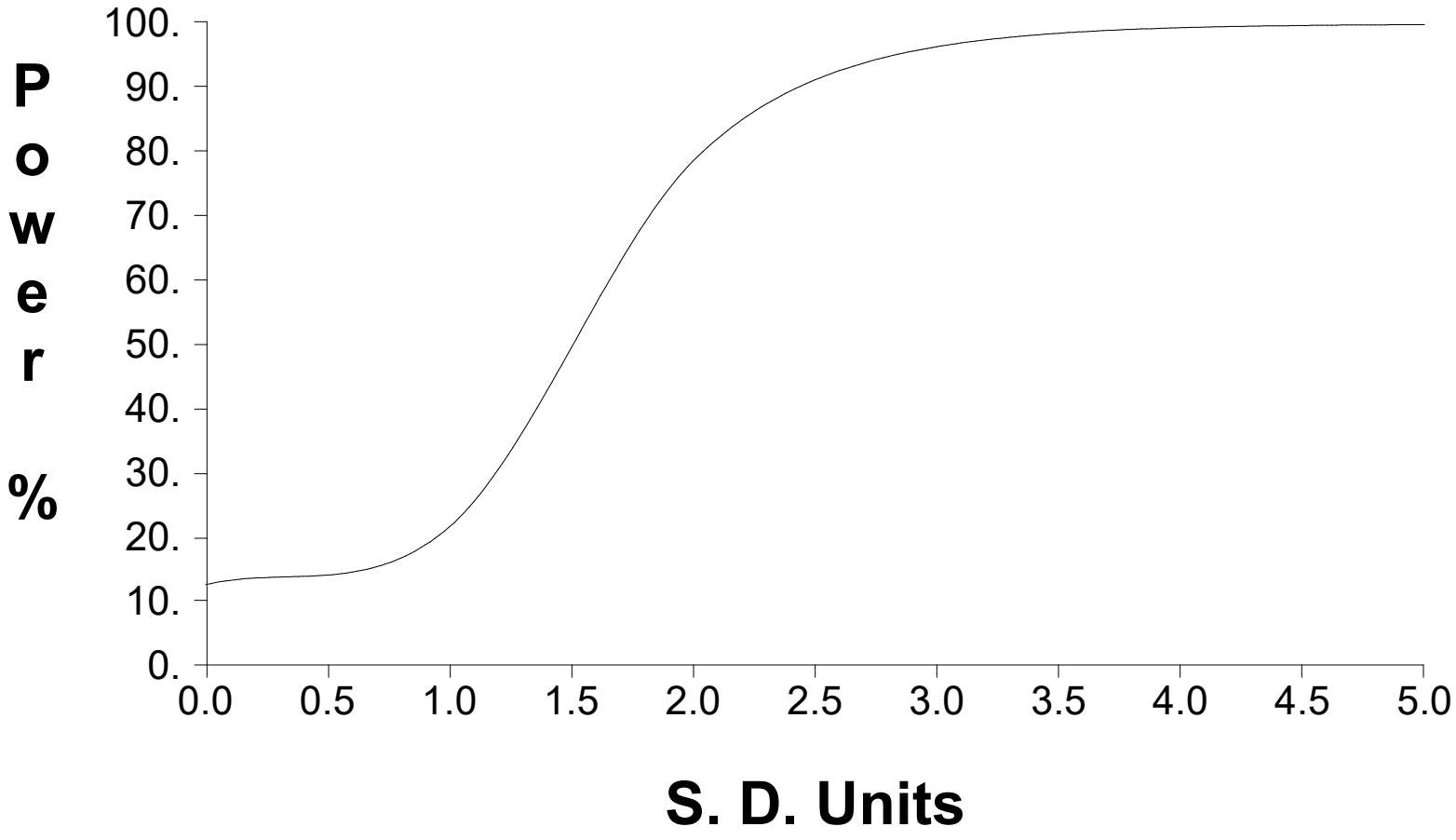
Table C-7

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
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
Lithium, total (Federal)	ug/L	MW-4C	11/08/2022		411.0000	*	20.0000
Lithium, total (Federal)	ug/L	MW-4C	05/09/2023		351.0000	*	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
Molybdenum, total (Federal)	ug/L	MW-3	11/07/2022		304.0000	*	100.0000
Molybdenum, total (Federal)	ug/L	MW-3	05/07/2023		345.0000	*	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



Appendix C: Statistical Analyses – 95% Lower Confidence Limit Documentation

November 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	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-11	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-13	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total (Federal)	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	6.000		
Arsenic, total (Federal)	ug/L	MW-10	4	91.825	9.951	1.176	80.119	103.531	10.000		**
Arsenic, total (Federal)	ug/L	MW-11	4	6.075	6.612	1.176	0.000	13.853	10.000		
Arsenic, total (Federal)	ug/L	MW-12	4	1.625	0.922	1.176	0.541	2.709	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	10.600	4.191	1.176	5.670	15.530	10.000		
Arsenic, total (Federal)	ug/L	MW-3	4	16.750	1.353	1.176	15.159	18.341	10.000		**
Arsenic, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	10.000		
Barium, total (Federal)	ug/L	MW-10	4	94.075	22.148	1.176	68.022	120.128	2000.000		
Barium, total (Federal)	ug/L	MW-11	4	62.200	31.554	1.176	25.083	99.317	2000.000		
Barium, total (Federal)	ug/L	MW-12	4	32.325	6.832	1.176	24.289	40.361	2000.000		
Barium, total (Federal)	ug/L	MW-13	4	22.650	4.779	1.176	17.029	28.271	2000.000	dec	
Barium, total (Federal)	ug/L	MW-2R	4	48.100	4.310	1.176	43.031	53.169	2000.000		
Barium, total (Federal)	ug/L	MW-3	4	44.150	8.243	1.176	34.454	53.846	2000.000		
Barium, total (Federal)	ug/L	MW-4C	4	29.625	2.595	1.176	26.572	32.678	2000.000		
Beryllium, total (Federal)	ug/L	MW-10	4	0.690	0.534	1.176	0.062	1.318	4.000		
Beryllium, total (Federal)	ug/L	MW-11	4	0.465	0.444	1.176	0.000	0.987	4.000		
Beryllium, total (Federal)	ug/L	MW-12	4	0.100	0.000	1.176	0.100	0.100	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	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-3	4	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-4C	4	0.100	0.000	1.176	0.100	0.100	4.000		
Cadmium, total (Federal)	ug/L	MW-10	4	0.805	0.390	1.176	0.346	1.264	5.000		
Cadmium, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-13	4	1.000	0.000	1.176	1.000	1.000	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	11.600	8.764	1.176	1.291	21.909	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		

* - 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	
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	3.600	1.390	1.176	1.964	5.236	6.000		
Cobalt, total (Federal)	ug/L	MW-11	4	1.775	1.517	1.176	0.000	3.560	6.000		
Cobalt, total (Federal)	ug/L	MW-12	4	0.700	0.400	1.176	0.229	1.171	6.000		
Cobalt, total (Federal)	ug/L	MW-13	4	1.800	0.000	1.176	1.800	1.800	6.000		
Cobalt, total (Federal)	ug/L	MW-2R	4	2.600	0.606	1.176	1.888	3.312	6.000		
Cobalt, total (Federal)	ug/L	MW-3	4	2.200	0.337	1.176	1.804	2.596	6.000		
Cobalt, total (Federal)	ug/L	MW-4C	4	0.975	0.320	1.176	0.598	1.352	6.000		
Fluoride (Federal)	mg/L	MW-10	4	0.394	0.105	1.176	0.270	0.517	4.000		
Fluoride (Federal)	mg/L	MW-11	4	0.119	0.048	1.176	0.062	0.176	4.000		
Fluoride (Federal)	mg/L	MW-12	4	0.108	0.039	1.176	0.061	0.154	4.000		
Fluoride (Federal)	mg/L	MW-13	4	0.666	0.101	1.176	0.547	0.785	4.000		
Fluoride (Federal)	mg/L	MW-2R	4	0.050	0.000	1.176	0.050	0.050	4.000		
Fluoride (Federal)	mg/L	MW-3	4	0.085	0.044	1.176	0.034	0.136	4.000	dec	
Fluoride (Federal)	mg/L	MW-4C	4	0.100	0.063	1.176	0.026	0.174	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	6.850	3.700	1.176	2.498	11.202	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		
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	48.225	8.289	1.176	38.475	57.975	40.000		
Lithium, total (Federal)	ug/L	MW-11	4	10.000	0.000	1.176	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-12	4	10.000	0.000	1.176	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-13	4	240.450	234.321	1.176	0.000	516.079	40.000		
Lithium, total (Federal)	ug/L	MW-2R	4	877.750	44.784	1.176	825.071	930.429	40.000		**
Lithium, total (Federal)	ug/L	MW-3	4	1910.000	73.937	1.176	1823.029	1996.971	40.000	inc	**
Lithium, total (Federal)	ug/L	MW-4C	4	386.500	48.966	1.176	328.902	444.098	40.000		**
Mercury, total (Federal)	ug/L	MW-10	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	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	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	2.000		
Molybdenum, total (Federal)	ug/L	MW-10	4	18.725	6.019	1.176	11.645	25.805	100.000		
Molybdenum, total (Federal)	ug/L	MW-11	4	4.000	2.000	1.176	1.647	6.353	100.000		
Molybdenum, total (Federal)	ug/L	MW-12	4	5.000	0.000	1.176	5.000	5.000	100.000		

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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	
Molybdenum, total (Federal)	ug/L	MW-13	4	55.825	17.236	1.176	35.550	76.100	100.000		
Molybdenum, total (Federal)	ug/L	MW-2R	4	10.550	0.370	1.176	10.115	10.985	100.000		
Molybdenum, total (Federal)	ug/L	MW-3	4	402.500	132.847	1.176	246.234	558.766	100.000		**
Molybdenum, total (Federal)	ug/L	MW-4C	4	5.700	1.400	1.176	4.053	7.347	100.000		
Selenium, total (Federal)	ug/L	MW-10	4	1.125	0.506	1.176	0.530	1.720	50.000		
Selenium, total (Federal)	ug/L	MW-11	4	4.350	0.940	1.176	3.244	5.456	50.000		
Selenium, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-13	4	7.525	1.952	1.176	5.229	9.821	50.000		
Selenium, total (Federal)	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	50.000		
Thallium, total (Federal)	ug/L	MW-10	4	0.500	0.000	1.176	0.500	0.500	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	0.500	0.000	1.176	0.500	0.500	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	0.500	0.000	1.176	0.500	0.500	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	1.129	0.236	1.176	0.851	1.406	5.000		
Total Radium (Federal)	pCi/L	MW-11	4	1.573	1.625	1.176	0.000	3.484	5.000		
Total Radium (Federal)	pCi/L	MW-12	4	0.820	0.000	1.176	0.820	0.820	5.000		
Total Radium (Federal)	pCi/L	MW-13	4	0.687	0.004	1.176	0.682	0.693	5.000		
Total Radium (Federal)	pCi/L	MW-2R	4	1.170	0.327	1.176	0.785	1.555	5.000		
Total Radium (Federal)	pCi/L	MW-3	4	1.501	0.778	1.176	0.586	2.417	5.000		
Total Radium (Federal)	pCi/L	MW-4C	4	1.300	0.579	1.176	0.618	1.981	5.000		

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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	
Antimony, total (Federal)	ug/L	MW-10	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-11	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-12	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-13	8	2.325	0.495	0.670	1.993	2.657	6.000		
Antimony, total (Federal)	ug/L	MW-2R	8	0.500	0.000	0.670	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-3	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	6.000		
Arsenic, total (Federal)	ug/L	MW-10	6	94.450	9.130	0.822	86.942	101.958	10.000		**
Arsenic, total (Federal)	ug/L	MW-11	6	5.917	6.058	0.822	0.935	10.899	10.000		
Arsenic, total (Federal)	ug/L	MW-12	6	1.250	0.920	0.822	0.493	2.007	10.000		
Arsenic, total (Federal)	ug/L	MW-13	8	2.500	0.000	0.670	2.500	2.500	10.000		
Arsenic, total (Federal)	ug/L	MW-2R	8	10.600	3.332	0.670	8.368	12.832	10.000		
Arsenic, total (Federal)	ug/L	MW-3	6	17.283	1.905	0.822	15.717	18.850	10.000		**
Arsenic, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	10.000		
Barium, total (Federal)	ug/L	MW-10	6	85.767	21.451	0.822	68.125	103.408	2000.000		
Barium, total (Federal)	ug/L	MW-11	6	61.450	30.675	0.822	36.223	86.677	2000.000		
Barium, total (Federal)	ug/L	MW-12	6	31.983	5.318	0.822	27.610	36.357	2000.000		
Barium, total (Federal)	ug/L	MW-13	8	22.375	3.837	0.670	19.805	24.945	2000.000	dec	
Barium, total (Federal)	ug/L	MW-2R	8	44.300	5.641	0.670	40.522	48.078	2000.000		
Barium, total (Federal)	ug/L	MW-3	6	43.283	6.665	0.822	37.802	48.764	2000.000		
Barium, total (Federal)	ug/L	MW-4C	6	29.583	2.150	0.822	27.815	31.351	2000.000		
Beryllium, total (Federal)	ug/L	MW-10	6	0.562	0.477	0.822	0.169	0.954	4.000		
Beryllium, total (Federal)	ug/L	MW-11	6	0.475	0.425	0.822	0.125	0.825	4.000		
Beryllium, total (Federal)	ug/L	MW-12	6	0.100	0.000	0.822	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-13	8	0.500	0.000	0.670	0.500	0.500	4.000		
Beryllium, total (Federal)	ug/L	MW-2R	8	0.100	0.000	0.670	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-3	6	0.100	0.000	0.822	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-4C	6	0.100	0.000	0.822	0.100	0.100	4.000		
Cadmium, total (Federal)	ug/L	MW-10	6	0.870	0.318	0.822	0.608	1.132	5.000		
Cadmium, total (Federal)	ug/L	MW-11	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-12	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-13	8	1.000	0.000	0.670	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-2R	8	1.000	0.000	0.670	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-3	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-4C	6	0.980	0.049	0.822	0.940	1.020	5.000		
Chromium, total (Federal)	ug/L	MW-10	5	6.280	2.698	0.953	3.708	8.852	100.000		
Chromium, total (Federal)	ug/L	MW-11	5	10.280	8.144	0.953	2.517	18.043	100.000		
Chromium, total (Federal)	ug/L	MW-12	5	5.000	0.000	0.953	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-13	8	5.000	0.000	0.670	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-2R	7	5.000	0.000	0.734	5.000	5.000	100.000		

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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	
Chromium, total (Federal)	ug/L	MW-3	5	5.000	0.000	0.953	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-4C	5	5.000	0.000	0.953	5.000	5.000	100.000		
Cobalt, total (Federal)	ug/L	MW-10	6	3.600	1.079	0.822	2.713	4.487	6.000		
Cobalt, total (Federal)	ug/L	MW-11	6	1.783	1.434	0.822	0.604	2.963	6.000		
Cobalt, total (Federal)	ug/L	MW-12	6	0.633	0.327	0.822	0.365	0.902	6.000		
Cobalt, total (Federal)	ug/L	MW-13	8	1.800	0.000	0.670	1.800	1.800	6.000		
Cobalt, total (Federal)	ug/L	MW-2R	8	2.838	0.490	0.670	2.509	3.166	6.000		
Cobalt, total (Federal)	ug/L	MW-3	6	2.267	0.339	0.822	1.988	2.545	6.000		
Cobalt, total (Federal)	ug/L	MW-4C	6	0.900	0.316	0.822	0.640	1.160	6.000		
Fluoride (Federal)	mg/L	MW-10	6	0.429	0.099	0.822	0.348	0.511	4.000		
Fluoride (Federal)	mg/L	MW-11	6	0.136	0.046	0.822	0.098	0.174	4.000		
Fluoride (Federal)	mg/L	MW-12	6	0.123	0.039	0.822	0.091	0.156	4.000		
Fluoride (Federal)	mg/L	MW-13	8	0.686	0.086	0.670	0.628	0.744	4.000		
Fluoride (Federal)	mg/L	MW-2R	8	0.067	0.032	0.670	0.046	0.089	4.000		
Fluoride (Federal)	mg/L	MW-3	6	0.143	0.112	0.822	0.051	0.235	4.000	dec	
Fluoride (Federal)	mg/L	MW-4C	6	0.118	0.060	0.822	0.069	0.168	4.000		
Lead, total (Federal)	ug/L	MW-10	6	6.383	2.307	0.822	4.486	8.280	15.000		
Lead, total (Federal)	ug/L	MW-11	6	7.067	3.290	0.822	4.361	9.773	15.000		
Lead, total (Federal)	ug/L	MW-12	6	4.350	1.592	0.822	3.041	5.659	15.000		
Lead, total (Federal)	ug/L	MW-13	8	5.000	0.000	0.670	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-2R	8	5.000	0.000	0.670	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-3	6	5.000	0.000	0.822	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-4C	6	5.000	0.000	0.822	5.000	5.000	15.000		
Lithium, total (Federal)	ug/L	MW-10	6	48.250	8.294	0.822	41.430	55.070	40.000		**
Lithium, total (Federal)	ug/L	MW-11	6	10.000	0.000	0.822	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-12	6	10.000	0.000	0.822	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-13	8	159.750	189.342	0.670	32.926	286.574	40.000		
Lithium, total (Federal)	ug/L	MW-2R	8	722.750	174.383	0.670	605.946	839.554	40.000		**
Lithium, total (Federal)	ug/L	MW-3	6	1820.000	168.760	0.822	1681.215	1958.785	40.000	inc	**
Lithium, total (Federal)	ug/L	MW-4C	6	345.833	74.901	0.822	284.236	407.431	40.000		**
Mercury, total (Federal)	ug/L	MW-10	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-13	8	0.100	0.000	0.670	0.100	0.100	2.000		
Mercury, total (Federal)	ug/L	MW-2R	6	1.000	0.000	0.822	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	2.000		
Molybdenum, total (Federal)	ug/L	MW-10	6	18.533	5.104	0.822	14.336	22.731	100.000		
Molybdenum, total (Federal)	ug/L	MW-11	6	4.333	1.633	0.822	2.990	5.676	100.000		
Molybdenum, total (Federal)	ug/L	MW-12	6	5.000	0.000	0.822	5.000	5.000	100.000		

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Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Molybdenum, total (Federal)	ug/L	MW-13	8	54.200	15.734	0.670	43.661	64.739	100.000		
Molybdenum, total (Federal)	ug/L	MW-2R	8	15.988	13.768	0.670	6.765	25.210	100.000		
Molybdenum, total (Federal)	ug/L	MW-3	6	448.000	124.890	0.822	345.292	550.708	100.000		**
Molybdenum, total (Federal)	ug/L	MW-4C	6	5.467	1.143	0.822	4.527	6.407	100.000		
Selenium, total (Federal)	ug/L	MW-10	6	0.917	0.508	0.822	0.499	1.334	50.000		
Selenium, total (Federal)	ug/L	MW-11	6	3.767	1.162	0.822	2.811	4.722	50.000		
Selenium, total (Federal)	ug/L	MW-12	6	0.500	0.000	0.822	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-13	8	5.588	2.520	0.670	3.900	7.275	50.000		
Selenium, total (Federal)	ug/L	MW-2R	8	0.500	0.000	0.670	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-3	6	0.500	0.000	0.822	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	50.000		
Thallium, total (Federal)	ug/L	MW-10	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-11	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-12	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-13	8	0.500	0.000	0.670	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-2R	8	0.725	0.636	0.670	0.299	1.151	2.000		
Thallium, total (Federal)	ug/L	MW-3	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-4C	5	0.500	0.000	0.953	0.500	0.500	2.000		
Total Radium (Federal)	pCi/L	MW-10	6	1.148	0.186	0.822	0.995	1.300	5.000		
Total Radium (Federal)	pCi/L	MW-11	6	1.416	1.290	0.822	0.355	2.478	5.000		
Total Radium (Federal)	pCi/L	MW-12	6	0.822	0.006	0.822	0.817	0.828	5.000		
Total Radium (Federal)	pCi/L	MW-13	8	0.687	0.004	0.670	0.684	0.690	5.000		
Total Radium (Federal)	pCi/L	MW-2R	8	1.068	0.266	0.670	0.890	1.246	5.000		
Total Radium (Federal)	pCi/L	MW-3	6	1.430	0.693	0.822	0.861	2.000	5.000		
Total Radium (Federal)	pCi/L	MW-4C	6	1.236	0.465	0.822	0.853	1.618	5.000		

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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	
Antimony, total (Federal)	ug/L	MW-10	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-11	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-12	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-13	16	2.413	0.350	0.438	2.259	2.566	6.000		
Antimony, total (Federal)	ug/L	MW-2R	10	0.500	0.000	0.580	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-3	6	0.500	0.000	0.822	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	6.000		
Arsenic, total (Federal)	ug/L	MW-10	6	94.450	9.130	0.822	86.942	101.958	10.000		**
Arsenic, total (Federal)	ug/L	MW-11	6	5.917	6.058	0.822	0.935	10.899	10.000		
Arsenic, total (Federal)	ug/L	MW-12	6	1.250	0.920	0.822	0.493	2.007	10.000		
Arsenic, total (Federal)	ug/L	MW-13	16	2.500	0.000	0.438	2.500	2.500	10.000		
Arsenic, total (Federal)	ug/L	MW-2R	10	12.680	7.077	0.580	8.579	16.781	10.000		
Arsenic, total (Federal)	ug/L	MW-3	6	17.283	1.905	0.822	15.717	18.850	10.000		**
Arsenic, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	10.000		
Barium, total (Federal)	ug/L	MW-10	6	85.767	21.451	0.822	68.125	103.408	2000.000		
Barium, total (Federal)	ug/L	MW-11	6	61.450	30.675	0.822	36.223	86.677	2000.000		
Barium, total (Federal)	ug/L	MW-12	6	31.983	5.318	0.822	27.610	36.357	2000.000		
Barium, total (Federal)	ug/L	MW-13	16	27.125	9.719	0.438	22.866	31.384	2000.000	dec	
Barium, total (Federal)	ug/L	MW-2R	10	47.140	10.359	0.580	41.136	53.144	2000.000		
Barium, total (Federal)	ug/L	MW-3	6	43.283	6.665	0.822	37.802	48.764	2000.000		
Barium, total (Federal)	ug/L	MW-4C	6	29.583	2.150	0.822	27.815	31.351	2000.000		
Beryllium, total (Federal)	ug/L	MW-10	6	0.562	0.477	0.822	0.169	0.954	4.000		
Beryllium, total (Federal)	ug/L	MW-11	6	0.475	0.425	0.822	0.125	0.825	4.000		
Beryllium, total (Federal)	ug/L	MW-12	6	0.100	0.000	0.822	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-13	16	0.500	0.000	0.438	0.500	0.500	4.000		
Beryllium, total (Federal)	ug/L	MW-2R	10	0.100	0.000	0.580	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-3	6	0.100	0.000	0.822	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-4C	6	0.100	0.000	0.822	0.100	0.100	4.000		
Cadmium, total (Federal)	ug/L	MW-10	6	0.870	0.318	0.822	0.608	1.132	5.000		
Cadmium, total (Federal)	ug/L	MW-11	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-12	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-13	16	1.000	0.000	0.438	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-2R	10	1.000	0.000	0.580	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-3	6	1.000	0.000	0.822	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-4C	6	0.980	0.049	0.822	0.940	1.020	5.000		
Chromium, total (Federal)	ug/L	MW-10	5	6.280	2.698	0.953	3.708	8.852	100.000		
Chromium, total (Federal)	ug/L	MW-11	5	10.280	8.144	0.953	2.517	18.043	100.000		
Chromium, total (Federal)	ug/L	MW-12	5	5.000	0.000	0.953	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-13	14	5.000	0.000	0.473	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-2R	7	5.000	0.000	0.734	5.000	5.000	100.000		

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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	
Chromium, total (Federal)	ug/L	MW-3	5	5.000	0.000	0.953	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-4C	5	5.000	0.000	0.953	5.000	5.000	100.000		
Cobalt, total (Federal)	ug/L	MW-10	6	3.600	1.079	0.822	2.713	4.487	6.000		
Cobalt, total (Federal)	ug/L	MW-11	6	1.783	1.434	0.822	0.604	2.963	6.000		
Cobalt, total (Federal)	ug/L	MW-12	6	0.633	0.327	0.822	0.365	0.902	6.000		
Cobalt, total (Federal)	ug/L	MW-13	16	1.800	0.000	0.438	1.800	1.800	6.000		
Cobalt, total (Federal)	ug/L	MW-2R	10	2.630	0.615	0.580	2.274	2.986	6.000		
Cobalt, total (Federal)	ug/L	MW-3	6	2.267	0.339	0.822	1.988	2.545	6.000		
Cobalt, total (Federal)	ug/L	MW-4C	6	0.900	0.316	0.822	0.640	1.160	6.000		
Fluoride (Federal)	mg/L	MW-10	6	0.429	0.099	0.822	0.348	0.511	4.000		
Fluoride (Federal)	mg/L	MW-11	6	0.136	0.046	0.822	0.098	0.174	4.000		
Fluoride (Federal)	mg/L	MW-12	6	0.123	0.039	0.822	0.091	0.156	4.000		
Fluoride (Federal)	mg/L	MW-13	16	1.252	0.872	0.438	0.870	1.634	4.000		
Fluoride (Federal)	mg/L	MW-2R	10	0.064	0.030	0.580	0.047	0.081	4.000		
Fluoride (Federal)	mg/L	MW-3	6	0.143	0.112	0.822	0.051	0.235	4.000	dec	
Fluoride (Federal)	mg/L	MW-4C	6	0.118	0.060	0.822	0.069	0.168	4.000		
Lead, total (Federal)	ug/L	MW-10	6	6.383	2.307	0.822	4.486	8.280	15.000		
Lead, total (Federal)	ug/L	MW-11	6	7.067	3.290	0.822	4.361	9.773	15.000		
Lead, total (Federal)	ug/L	MW-12	6	4.350	1.592	0.822	3.041	5.659	15.000		
Lead, total (Federal)	ug/L	MW-13	16	5.000	0.000	0.438	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-2R	9	5.000	0.000	0.620	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-3	6	5.000	0.000	0.822	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-4C	6	5.000	0.000	0.822	5.000	5.000	15.000		
Lithium, total (Federal)	ug/L	MW-10	6	48.250	8.294	0.822	41.430	55.070	40.000		**
Lithium, total (Federal)	ug/L	MW-11	6	10.000	0.000	0.822	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-12	6	10.000	0.000	0.822	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-13	16	406.125	464.895	0.438	202.414	609.836	40.000		**
Lithium, total (Federal)	ug/L	MW-2R	10	754.200	171.668	0.580	654.710	853.690	40.000		**
Lithium, total (Federal)	ug/L	MW-3	6	1820.000	168.760	0.822	1681.215	1958.785	40.000	inc	**
Lithium, total (Federal)	ug/L	MW-4C	6	345.833	74.901	0.822	284.236	407.431	40.000		**
Mercury, total (Federal)	ug/L	MW-10	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-13	13	0.117	0.061	0.494	0.087	0.147	2.000		
Mercury, total (Federal)	ug/L	MW-2R	6	1.000	0.000	0.822	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	2.000		
Molybdenum, total (Federal)	ug/L	MW-10	6	18.533	5.104	0.822	14.336	22.731	100.000		
Molybdenum, total (Federal)	ug/L	MW-11	6	4.333	1.633	0.822	2.990	5.676	100.000		
Molybdenum, total (Federal)	ug/L	MW-12	6	5.000	0.000	0.822	5.000	5.000	100.000		

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Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Molybdenum, total (Federal)	ug/L	MW-13	16	52.100	10.965	0.438	47.295	56.905	100.000		
Molybdenum, total (Federal)	ug/L	MW-2R	10	22.790	18.791	0.580	11.900	33.680	100.000		
Molybdenum, total (Federal)	ug/L	MW-3	6	448.000	124.890	0.822	345.292	550.708	100.000		**
Molybdenum, total (Federal)	ug/L	MW-4C	6	5.467	1.143	0.822	4.527	6.407	100.000		
Selenium, total (Federal)	ug/L	MW-10	6	0.917	0.508	0.822	0.499	1.334	50.000		
Selenium, total (Federal)	ug/L	MW-11	6	3.767	1.162	0.822	2.811	4.722	50.000		
Selenium, total (Federal)	ug/L	MW-12	6	0.500	0.000	0.822	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-13	16	9.506	6.920	0.438	6.474	12.539	50.000		
Selenium, total (Federal)	ug/L	MW-2R	10	0.500	0.000	0.580	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-3	6	0.500	0.000	0.822	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	50.000		
Thallium, total (Federal)	ug/L	MW-10	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-11	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-12	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-13	16	0.500	0.000	0.438	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-2R	9	0.700	0.600	0.620	0.328	1.072	2.000		
Thallium, total (Federal)	ug/L	MW-3	5	0.500	0.000	0.953	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-4C	5	0.500	0.000	0.953	0.500	0.500	2.000		
Total Radium (Federal)	pCi/L	MW-10	6	1.148	0.186	0.822	0.995	1.300	5.000		
Total Radium (Federal)	pCi/L	MW-11	6	1.416	1.290	0.822	0.355	2.478	5.000		
Total Radium (Federal)	pCi/L	MW-12	6	0.822	0.006	0.822	0.817	0.828	5.000		
Total Radium (Federal)	pCi/L	MW-13	16	0.972	0.617	0.438	0.702	1.243	5.000		
Total Radium (Federal)	pCi/L	MW-2R	10	1.155	0.443	0.580	0.898	1.412	5.000		
Total Radium (Federal)	pCi/L	MW-3	6	1.430	0.693	0.822	0.861	2.000	5.000		
Total Radium (Federal)	pCi/L	MW-4C	6	1.236	0.465	0.822	0.853	1.618	5.000		

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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 November 2022)	1.4	5.1	65.7076	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
	November 2022	0.5	5.67 8.711 (N=9)	43.031	0.1	1	5	1.888	0.05	5	**825.071**	1	10.115	0.500	0.500	0.785
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
	November 2022	0.5	**15.159**	34.454	0.1	1	5.000	1.804	0.034	5	**1823.029**	1	**246.234**	0.500	0.500	0.586
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
	November 2022	0.5	0.5	26.572	0.1	0.899	5	0.598	0.026	5	**328.902**	1	4.053	0.500	0.500	0.618

Final Date: 6/5/2023

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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 November 2022)	1.4	5.1	65.7076	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
	November 2022	0.500	**80.119**	68.022	0.062	0.346	3.067	1.964	0.270	3.973	38.475 **41.43 (N=8)**	1.000	11.645	0.530	0.500	0.851
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
	November 2022	0.5	0	25.083	0	1	1.291	0	0.062	2.498	10	1	1.647	3.244	0.500	0.000

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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 November 2022)	1.4	5.1	65.7076	1	2	10	20	5	10	20	0.67	100	8.6	1	2.6
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
	November 2022	0.5	0.541	24.289	0.1	1	5	0.229	0.061	1.731	10	1	5	0.500	0.500	0.820
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
	November 2022	2.5	2.5	17.029	0.5	1	5	1.8	0.547	5	0 **202.414 (N=16)**	0.1	35.550	5.229	0.500	0.682

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).

Final Date: 6/5/2023

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 November 2022)	1.4	5.1	65.7076	1	2	10	20	5	10	20	0.67	100	8.6	1	2.6

** 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 November 2022 assessment sampling results.

Final Date: 6/5/2023

May-June 2023

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	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-11	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-13	4	2.500	0.000	1.176	2.500	2.500	6.000		
Antimony, total (Federal)	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	6.000		
Arsenic, total (Federal)	ug/L	MW-10	4	84.650	14.745	1.176	67.306	101.994	10.000		**
Arsenic, total (Federal)	ug/L	MW-11	4	6.075	6.612	1.176	0.000	13.853	10.000		
Arsenic, total (Federal)	ug/L	MW-12	4	1.350	0.379	1.176	0.905	1.795	10.000		
Arsenic, total (Federal)	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	10.000		
Arsenic, total (Federal)	ug/L	MW-2R	4	28.550	33.102	1.176	0.000	67.488	10.000		
Arsenic, total (Federal)	ug/L	MW-3	4	20.575	7.931	1.176	11.246	29.904	10.000		**
Arsenic, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	10.000		
Barium, total (Federal)	ug/L	MW-10	4	80.925	16.527	1.176	61.485	100.365	2000.000		
Barium, total (Federal)	ug/L	MW-11	4	60.125	33.470	1.176	20.755	99.495	2000.000		
Barium, total (Federal)	ug/L	MW-12	4	30.500	3.455	1.176	26.435	34.565	2000.000		
Barium, total (Federal)	ug/L	MW-13	4	22.925	4.392	1.176	17.759	28.091	2000.000	dec	
Barium, total (Federal)	ug/L	MW-2R	4	57.050	15.983	1.176	38.250	75.850	2000.000		
Barium, total (Federal)	ug/L	MW-3	4	50.225	10.228	1.176	38.194	62.256	2000.000		
Barium, total (Federal)	ug/L	MW-4C	4	29.350	2.791	1.176	26.067	32.633	2000.000		
Beryllium, total (Federal)	ug/L	MW-10	4	0.390	0.396	1.176	0.000	0.856	4.000		
Beryllium, total (Federal)	ug/L	MW-11	4	0.465	0.444	1.176	0.000	0.987	4.000		
Beryllium, total (Federal)	ug/L	MW-12	4	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-13	4	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-2R	4	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-3	4	0.100	0.000	1.176	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-4C	4	0.100	0.000	1.176	0.100	0.100	4.000		
Cadmium, total (Federal)	ug/L	MW-10	4	0.805	0.390	1.176	0.346	1.264	5.000		
Cadmium, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-13	4	1.000	0.000	1.176	1.000	1.000	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	0.818	0.291	1.176	0.476	1.159	5.000		
Chromium, total (Federal)	ug/L	MW-10	4	5.075	0.150	1.176	4.899	5.251	100.000		
Chromium, total (Federal)	ug/L	MW-11	4	11.600	8.764	1.176	1.291	21.909	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		

* - 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	
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	2.750	0.719	1.176	1.904	3.596	6.000		
Cobalt, total (Federal)	ug/L	MW-11	4	1.775	1.517	1.176	0.000	3.560	6.000		
Cobalt, total (Federal)	ug/L	MW-12	4	0.675	0.350	1.176	0.263	1.087	6.000		
Cobalt, total (Federal)	ug/L	MW-13	4	0.500	0.000	1.176	0.500	0.500	6.000		
Cobalt, total (Federal)	ug/L	MW-2R	4	2.800	0.829	1.176	1.825	3.775	6.000		
Cobalt, total (Federal)	ug/L	MW-3	4	2.250	0.332	1.176	1.860	2.640	6.000		
Cobalt, total (Federal)	ug/L	MW-4C	4	0.800	0.346	1.176	0.393	1.207	6.000		
Fluoride (Federal)	mg/L	MW-10	4	0.346	0.129	1.176	0.194	0.498	4.000		
Fluoride (Federal)	mg/L	MW-11	4	0.124	0.050	1.176	0.065	0.182	4.000		
Fluoride (Federal)	mg/L	MW-12	4	0.118	0.048	1.176	0.061	0.174	4.000		
Fluoride (Federal)	mg/L	MW-13	4	0.669	0.101	1.176	0.550	0.787	4.000		
Fluoride (Federal)	mg/L	MW-2R	4	0.050	0.000	1.176	0.050	0.050	4.000		
Fluoride (Federal)	mg/L	MW-3	4	0.085	0.044	1.176	0.034	0.136	4.000		
Fluoride (Federal)	mg/L	MW-4C	4	0.100	0.063	1.176	0.026	0.174	4.000		
Lead, total (Federal)	ug/L	MW-10	4	5.700	1.400	1.176	4.053	7.347	15.000		
Lead, total (Federal)	ug/L	MW-11	4	6.850	3.700	1.176	2.498	11.202	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		
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	46.625	10.498	1.176	34.277	58.973	40.000		
Lithium, total (Federal)	ug/L	MW-11	4	10.000	0.000	1.176	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-12	4	10.000	0.000	1.176	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-13	4	253.525	218.072	1.176	0.000	510.040	40.000		
Lithium, total (Federal)	ug/L	MW-2R	4	831.000	96.024	1.176	718.048	943.952	40.000		**
Lithium, total (Federal)	ug/L	MW-3	4	1882.500	122.848	1.176	1737.995	2027.005	40.000		**
Lithium, total (Federal)	ug/L	MW-4C	4	384.500	50.600	1.176	324.980	444.020	40.000		**
Mercury, total (Federal)	ug/L	MW-10	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-11	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-12	4	1.000	0.000	1.176	1.000	1.000	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	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-3	4	1.000	0.000	1.176	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-4C	4	1.000	0.000	1.176	1.000	1.000	2.000		
Molybdenum, total (Federal)	ug/L	MW-10	4	15.775	1.417	1.176	14.108	17.442	100.000		
Molybdenum, total (Federal)	ug/L	MW-11	4	4.000	2.000	1.176	1.647	6.353	100.000		
Molybdenum, total (Federal)	ug/L	MW-12	4	5.000	0.000	1.176	5.000	5.000	100.000		

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

Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Molybdenum, total (Federal)	ug/L	MW-13	4	54.450	18.527	1.176	32.657	76.243	100.000		
Molybdenum, total (Federal)	ug/L	MW-2R	4	10.575	0.350	1.176	10.163	10.987	100.000	dec	
Molybdenum, total (Federal)	ug/L	MW-3	4	355.750	101.224	1.176	236.682	474.818	100.000		**
Molybdenum, total (Federal)	ug/L	MW-4C	4	6.500	1.740	1.176	4.454	8.546	100.000		
Selenium, total (Federal)	ug/L	MW-10	4	0.925	0.568	1.176	0.257	1.593	50.000		
Selenium, total (Federal)	ug/L	MW-11	4	4.650	0.695	1.176	3.832	5.468	50.000		
Selenium, total (Federal)	ug/L	MW-12	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-13	4	6.875	1.996	1.176	4.528	9.222	50.000		
Selenium, total (Federal)	ug/L	MW-2R	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-3	4	0.500	0.000	1.176	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-4C	4	0.500	0.000	1.176	0.500	0.500	50.000		
Thallium, total (Federal)	ug/L	MW-10	4	0.500	0.000	1.176	0.500	0.500	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	0.500	0.000	1.176	0.500	0.500	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	0.500	0.000	1.176	0.500	0.500	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	1.219	0.397	1.176	0.751	1.686	5.000		
Total Radium (Federal)	pCi/L	MW-11	4	1.572	1.625	1.176	0.000	3.484	5.000		
Total Radium (Federal)	pCi/L	MW-12	4	0.775	0.089	1.176	0.670	0.881	5.000		
Total Radium (Federal)	pCi/L	MW-13	4	0.687	0.004	1.176	0.682	0.693	5.000		
Total Radium (Federal)	pCi/L	MW-2R	4	1.128	0.258	1.176	0.824	1.431	5.000		
Total Radium (Federal)	pCi/L	MW-3	4	1.105	0.410	1.176	0.623	1.587	5.000		
Total Radium (Federal)	pCi/L	MW-4C	4	0.993	0.257	1.176	0.691	1.295	5.000		

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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	
Antimony, total (Federal)	ug/L	MW-10	8	0.675	0.495	0.670	0.343	1.007	6.000		
Antimony, total (Federal)	ug/L	MW-11	7	0.500	0.000	0.734	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-12	7	0.500	0.000	0.734	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-13	8	2.325	0.495	0.670	1.993	2.657	6.000		
Antimony, total (Federal)	ug/L	MW-2R	8	0.500	0.000	0.670	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-3	7	0.500	0.000	0.734	0.500	0.500	6.000		
Antimony, total (Federal)	ug/L	MW-4C	7	0.500	0.000	0.734	0.500	0.500	6.000		
Arsenic, total (Federal)	ug/L	MW-10	8	95.175	17.678	0.670	83.334	107.016	10.000		**
Arsenic, total (Federal)	ug/L	MW-11	7	5.143	5.897	0.734	0.814	9.472	10.000		
Arsenic, total (Federal)	ug/L	MW-12	7	1.343	0.875	0.734	0.700	1.985	10.000		
Arsenic, total (Federal)	ug/L	MW-13	8	0.500	0.000	0.670	0.500	0.500	10.000		
Arsenic, total (Federal)	ug/L	MW-2R	8	19.313	23.928	0.670	3.285	35.340	10.000		
Arsenic, total (Federal)	ug/L	MW-3	7	19.429	5.936	0.734	15.071	23.786	10.000		**
Arsenic, total (Federal)	ug/L	MW-4C	7	0.500	0.000	0.734	0.500	0.500	10.000		
Barium, total (Federal)	ug/L	MW-10	8	91.500	30.475	0.670	71.087	111.913	2000.000		
Barium, total (Federal)	ug/L	MW-11	7	57.600	29.798	0.734	35.725	79.475	2000.000		
Barium, total (Federal)	ug/L	MW-12	7	32.400	4.979	0.734	28.745	36.055	2000.000		
Barium, total (Federal)	ug/L	MW-13	8	22.338	3.878	0.670	19.740	24.935	2000.000	dec	
Barium, total (Federal)	ug/L	MW-2R	8	49.913	13.074	0.670	41.155	58.670	2000.000		
Barium, total (Federal)	ug/L	MW-3	7	45.900	9.217	0.734	39.134	52.666	2000.000		
Barium, total (Federal)	ug/L	MW-4C	7	29.286	2.115	0.734	27.733	30.838	2000.000		
Beryllium, total (Federal)	ug/L	MW-10	8	0.846	1.082	0.670	0.121	1.571	4.000		
Beryllium, total (Federal)	ug/L	MW-11	7	0.421	0.413	0.734	0.118	0.725	4.000		
Beryllium, total (Federal)	ug/L	MW-12	7	0.100	0.000	0.734	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-13	8	0.100	0.000	0.670	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-2R	8	0.100	0.000	0.670	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-3	7	0.100	0.000	0.734	0.100	0.100	4.000		
Beryllium, total (Federal)	ug/L	MW-4C	7	0.100	0.000	0.734	0.100	0.100	4.000		
Cadmium, total (Federal)	ug/L	MW-10	8	0.903	0.276	0.670	0.718	1.087	5.000		
Cadmium, total (Federal)	ug/L	MW-11	7	1.000	0.000	0.734	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-12	7	1.000	0.000	0.734	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-13	8	1.000	0.000	0.670	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-2R	8	1.000	0.000	0.670	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-3	7	1.000	0.000	0.734	1.000	1.000	5.000		
Cadmium, total (Federal)	ug/L	MW-4C	7	0.896	0.227	0.734	0.729	1.063	5.000		
Chromium, total (Federal)	ug/L	MW-10	6	6.067	2.469	0.822	4.036	8.097	100.000		
Chromium, total (Federal)	ug/L	MW-11	6	9.400	7.596	0.822	3.153	15.647	100.000		
Chromium, total (Federal)	ug/L	MW-12	6	5.000	0.000	0.822	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-13	8	5.000	0.000	0.670	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-2R	8	5.000	0.000	0.670	5.000	5.000	100.000		

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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	
Chromium, total (Federal)	ug/L	MW-3	6	5.000	0.000	0.822	5.000	5.000	100.000		
Chromium, total (Federal)	ug/L	MW-4C	6	5.000	0.000	0.822	5.000	5.000	100.000		
Cobalt, total (Federal)	ug/L	MW-10	8	4.113	2.309	0.670	2.566	5.659	6.000		
Cobalt, total (Federal)	ug/L	MW-11	7	1.600	1.396	0.734	0.575	2.625	6.000		
Cobalt, total (Federal)	ug/L	MW-12	7	0.714	0.367	0.734	0.445	0.984	6.000		
Cobalt, total (Federal)	ug/L	MW-13	8	0.500	0.000	0.670	0.500	0.500	6.000		
Cobalt, total (Federal)	ug/L	MW-2R	8	2.888	0.559	0.670	2.513	3.262	6.000		
Cobalt, total (Federal)	ug/L	MW-3	7	2.271	0.309	0.734	2.044	2.499	6.000		
Cobalt, total (Federal)	ug/L	MW-4C	7	0.843	0.326	0.734	0.604	1.082	6.000		
Fluoride (Federal)	mg/L	MW-10	8	0.406	0.110	0.670	0.332	0.479	4.000		
Fluoride (Federal)	mg/L	MW-11	7	0.136	0.042	0.734	0.105	0.167	4.000		
Fluoride (Federal)	mg/L	MW-12	7	0.129	0.038	0.734	0.100	0.157	4.000		
Fluoride (Federal)	mg/L	MW-13	8	0.682	0.087	0.670	0.624	0.740	4.000		
Fluoride (Federal)	mg/L	MW-2R	8	0.067	0.032	0.670	0.046	0.089	4.000		
Fluoride (Federal)	mg/L	MW-3	7	0.143	0.102	0.734	0.068	0.218	4.000		
Fluoride (Federal)	mg/L	MW-4C	7	0.109	0.061	0.734	0.064	0.153	4.000		
Lead, total (Federal)	ug/L	MW-10	8	9.100	8.484	0.670	3.417	14.783	15.000		
Lead, total (Federal)	ug/L	MW-11	7	6.771	3.104	0.734	4.493	9.050	15.000		
Lead, total (Federal)	ug/L	MW-12	7	4.443	1.474	0.734	3.361	5.525	15.000		
Lead, total (Federal)	ug/L	MW-13	8	5.000	0.000	0.670	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-2R	8	5.000	0.000	0.670	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-3	7	5.000	0.000	0.734	5.000	5.000	15.000		
Lead, total (Federal)	ug/L	MW-4C	7	5.000	0.000	0.734	5.000	5.000	15.000		
Lithium, total (Federal)	ug/L	MW-10	8	46.563	8.538	0.670	40.844	52.281	40.000		**
Lithium, total (Federal)	ug/L	MW-11	7	10.000	0.000	0.734	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-12	7	10.000	0.000	0.734	10.000	10.000	40.000		
Lithium, total (Federal)	ug/L	MW-13	8	166.288	184.268	0.670	42.862	289.713	40.000		**
Lithium, total (Federal)	ug/L	MW-2R	8	733.625	169.417	0.670	620.147	847.103	40.000		**
Lithium, total (Federal)	ug/L	MW-3	7	1804.286	159.568	0.734	1687.146	1921.426	40.000		**
Lithium, total (Federal)	ug/L	MW-4C	7	346.571	68.403	0.734	296.356	396.786	40.000		**
Mercury, total (Federal)	ug/L	MW-10	5	1.000	0.000	0.953	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-11	5	1.000	0.000	0.953	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-12	5	1.000	0.000	0.953	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-13	8	0.100	0.000	0.670	0.100	0.100	2.000		
Mercury, total (Federal)	ug/L	MW-2R	7	1.000	0.000	0.734	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-3	5	1.000	0.000	0.953	1.000	1.000	2.000		
Mercury, total (Federal)	ug/L	MW-4C	5	1.000	0.000	0.953	1.000	1.000	2.000		
Molybdenum, total (Federal)	ug/L	MW-10	8	18.987	5.049	0.670	15.606	22.369	100.000		
Molybdenum, total (Federal)	ug/L	MW-11	7	4.429	1.512	0.734	3.319	5.538	100.000		
Molybdenum, total (Federal)	ug/L	MW-12	7	5.000	0.000	0.734	5.000	5.000	100.000		

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Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Molybdenum, total (Federal)	ug/L	MW-13	8	53.225	16.428	0.670	42.221	64.229	100.000		
Molybdenum, total (Federal)	ug/L	MW-2R	8	15.888	13.811	0.670	6.637	25.138	100.000	dec	
Molybdenum, total (Federal)	ug/L	MW-3	7	433.286	120.472	0.734	344.846	521.725	100.000		**
Molybdenum, total (Federal)	ug/L	MW-4C	7	5.857	1.468	0.734	4.779	6.935	100.000		
Selenium, total (Federal)	ug/L	MW-10	8	0.988	0.584	0.670	0.596	1.379	50.000		
Selenium, total (Federal)	ug/L	MW-11	7	3.886	1.107	0.734	3.073	4.698	50.000		
Selenium, total (Federal)	ug/L	MW-12	7	0.500	0.000	0.734	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-13	8	5.975	2.235	0.670	4.478	7.472	50.000		
Selenium, total (Federal)	ug/L	MW-2R	8	0.500	0.000	0.670	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-3	7	0.500	0.000	0.734	0.500	0.500	50.000		
Selenium, total (Federal)	ug/L	MW-4C	7	0.500	0.000	0.734	0.500	0.500	50.000		
Thallium, total (Federal)	ug/L	MW-10	7	0.671	0.454	0.734	0.338	1.004	2.000		
Thallium, total (Federal)	ug/L	MW-11	6	0.500	0.000	0.822	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-12	6	0.500	0.000	0.822	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-13	8	0.500	0.000	0.670	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-2R	8	0.500	0.000	0.670	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-3	6	0.500	0.000	0.822	0.500	0.500	2.000		
Thallium, total (Federal)	ug/L	MW-4C	6	0.500	0.000	0.822	0.500	0.500	2.000		
Total Radium (Federal)	pCi/L	MW-10	8	1.239	0.271	0.670	1.058	1.421	5.000		
Total Radium (Federal)	pCi/L	MW-11	7	1.323	1.204	0.734	0.439	2.206	5.000		
Total Radium (Federal)	pCi/L	MW-12	7	0.797	0.069	0.734	0.746	0.847	5.000		
Total Radium (Federal)	pCi/L	MW-13	8	0.687	0.004	0.670	0.684	0.690	5.000		
Total Radium (Federal)	pCi/L	MW-2R	8	1.096	0.292	0.670	0.901	1.292	5.000		
Total Radium (Federal)	pCi/L	MW-3	7	1.358	0.661	0.734	0.873	1.843	5.000		
Total Radium (Federal)	pCi/L	MW-4C	7	1.182	0.448	0.734	0.854	1.511	5.000		

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Table 1: 95% LCL Compared to GWPS
Petersburg RWS III Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01503

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 2023)	1	5.1	65.3196	0.65	2	10	3.6	5	10	20	0.67	100	8.6	1	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
	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
	November 2022	0.5	5.67 8.711 (N=9)	43.031	0.1	1	5	1.888	0.05	5	**825.071**	1	10.115	0.500	0.500	0.785
	May 2023	0.5	0 3.285 (N=8) 7.247 (N=11)	38.25	0.1	1	5	1.825	0.05	5	**718.048**	1	10.163	0.500	0.500	0.824
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
	November 2022	0.5	**15.159**	34.454	0.1	1	5.000	1.804	0.034	5	**1823.029**	1	**246.234**	0.500	0.500	0.586
	May 2023	0.5	**11.246**	38.194	0.1	1	5	1.86	0.034	5	**1737.995**	1	**236.682**	0.500	0.500	0.623
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
	November 2022	0.5	0.5	26.572	0.1	0.899	5	0.598	0.026	5	**328.902**	1	4.053	0.500	0.500	0.618
	May 2023	0.5	0.5	26.067	0.1	0.476	5	0.393	0.026	5	**324.98**	1	4.454	0.500	0.500	0.691

Table 1: 95% LCL Compared to GWPS
Petersburg RWS III Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01503

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 2023)	1	5.1	65.3196	0.65	2	10	3.6	5	10	20	0.67	100	8.6	1	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)	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
	November 2022	0.500	**80.119**	68.022	0.062	0.346	3.067	1.964	0.270	3.973	38.475 **41.43 (N=8)**	1.000	11.645	0.530	0.500	0.851
	May 2023	0.5	**67.306**	61.485	0	0.346	4.899	1.904	0.194	4.053	34.277 **40.844 (N=8)**	1	14.108	0.257	0.500	0.751
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
	November 2022	0.5	0	25.083	0	1	1.291	0	0.062	2.498	10	1	1.647	3.244	0.500	0.000
	May 2023	0.5	0	20.755	0	1	1.291	0	0.065	2.498	10	1	1.647	3.832	0.500	0.000

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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 2023)	1	5.1	65.3196	0.65	2	10	3.6	5	10	20	0.67	100	8.6	1	4.46
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
	November 2022	0.5	0.541	24.289	0.1	1	5	0.229	0.061	1.731	10	1	5	0.500	0.500	0.820
	May 2023	0.5	0.905	26.435	0.1	1	5	0.263	0.061	1.731	10	1	5	0.500	0.500	0.670
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
	November 2022	2.5	2.5	17.029	0.5	1	5	1.8	0.547	5	0 **202.414 (N=16)**	0.1	35.550	5.229	0.500	0.682
	May 2023	2.5	0.5	17.759	0.1	1	5	0.5	0.55	5	0 **42.862 (N=8)**	0.1	32.657	4.528	0.500	0.682

Table 1: 95% LCL Compared to GWPS
Petersburg RWS III Landfill
AES Indiana
Petersburg Generating Station, Petersburg, Indiana
ATC Project No. 170LF01503

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 2023)	1	5.1	65.3196	0.65	2	10	3.6	5	10	20	0.67	100	8.6	1	4.46

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 2023 assessment sampling results.