# PHASE II INVESTIGATION SOUTH MUNCIE INDUSTRIA CENTER

MUNCIE, DELAWARE COUNTY, INDIANA 47302 MUNDELL PROJECT NO. M20032 DECEMBER 30, 2022





110 South Downey Avenue Indianapolis, Indiana 46219-6406 317-630-9060, fax 317-630-9065 info@MundellAssociates.com

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MUNCIE, DELAWARE COUNTY, INDIANA 47302

Prepared for:

Mr. Brad Bookout
Director of Municipal & Economic Affairs
Delaware County Redevelopment Commission
1208 West White River boulevard, Suite 136
Muncie, IN 47303

December 30, 2022

Prepared by:

# MUNDELL & ASSOCIATES, INC.

110 South Downey Avenue Indianapolis, Indiana 46219-6406 317-630-9060, fax 317-630-9065 www.MundellAssociates.com

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110 South Downey Avenue, Indianapolis, Indiana 46219-6406 Telephone 317-630-9060, Facsimile 317-630-9065 www.MUNDELLAssociates.com

December 30, 2022

Mr. Brad Bookout Director of Municipal & Economic Affairs Delaware County Redevelopment Commission 1208 West White River Boulevard, Suite 136 Muncie, IN 47303

RE: Phase II Investigation

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project No. M20032

Dear Mr. Bookout:

Mundell & Associates, Inc. (MUNDELL) has completed the attached Phase II investigation for the above-referenced Industria Center in accordance with MUNDELL Proposal No. P20045.R2 and Change Order P20045.R2-CO1. This Phase II investigation was completed in order to characterize and evaluate potential environmental concerns identified in MUNDELL's *South Muncie Industrial Center Environmental Review* report dated July 31, 2020. The sampling activities completed during this investigation addressed a portion of the Sampling and Analysis Plans (SAPs) developed by MUNDELL's in the aforementioned initial environmental review. The results of this investigation and corresponding evaluation are presented herein.

We appreciate the opportunity to provide you with this report and look forward to working with you on future projects. In the meantime, if there are any questions regarding the information contained in this letter, or if we can be of further assistance, please contact MUNDELL at (317) 630-9060, <u>Ljohnstone@MundellAssociates.com</u>, or imundell@MundellAssociates.com.

Sincerely,

**MUNDELL & ASSOCIATES, INC.** 

Luke J. Johnstone, P.E.

Project Environmental Engineer

John A. Mundell, P.E., L.P.G., P.G.

President/Senior Environmental Consultant

a. Whele



#### **EXECUTIVE SUMMARY**

The Delaware County Redevelopment Commission (the County) requested that Mundell and Associates, Inc. (MUNDELL) proceed with Phase II investigation activities based on MUNDELL's South Muncie Industrial Center Environmental Review report dated July 31, 2020. The South Muncie Industria Center ("the Industria Center") consists of a mixed commercial/industrial setting located southwest of Muncie, Indiana. MUNDELL's initial environmental review was conducted on behalf of the County in response to the community's concerns relating to potential environmental impacts of the Industria Center due to its history of commercial and industrial activity. MUNDELL's initial environmental review identified several potential environmental concerns related to the Industria Center based on the review of environmental databases, regulatory information, interviews, topographic maps, aerial photography, and other related items. Accordingly, MUNDELL developed ten (10) Sampling and Analysis Plans (SAPs) to address the potential concerns and identify the presence or absence of area-wide environmental impacts.

Phase II investigation activities were conducted during eight (8) field mobilizations from October 2021 through April 2022 addressing to varying degrees six (6) of the ten (10) SAPs. In total, 36 surficial soil samples, six (6) sediment samples, three (3) surface water, and twenty (20) private well groundwater samples were submitted for laboratory analysis along with 138 in-situ surficial soil samples analyzed using a field portable X-Ray Fluorescence (XRF) device. MUNDELL collected these samples on 43 private properties, in the public right-of-way, and along a legal drain. All samples were analyzed for RCRA 8 Heavy Metals, with a portion of the samples analyzed for lithium. Sediment, surface water and groundwater samples were analyzed for volatile organic compounds (VOCs), with a portion of groundwater samples also analyzed for either polychlorinated biphenyls (PCBs) or per- and polyfluoroalkyl (PFAS).

Relative to the evaluation of the Industria Center's Southwest Drainage Basin and a historical landfill situated in the Southwest Drainage Basin, the soil, sediment, and/or surface water sampling results:

- 1) did not reveal the presence of consistent, area-wide heavy metal contamination above applicable residential screening levels;
- 2) did not identify VOC contamination; and
- 3) did not identify downstream leaching or migration of heavy metal or VOC contamination.

Pertaining to the concern for historic atmospheric deposition of heavy metals surrounding the Industria Center, the surficial soil sampling results:



- 1) did not reveal the presence of consistent, area-wide heavy metal contamination above applicable residential screening levels pertaining to public health in the areas adjacent to the Industria Center.
- 2) However, trends of elevated surficial soil lead concentrations compared to published background urban Indiana levels were identified to the northeast of the Industria Center and in a retention pond/drainageway of the Southwest Drainage Basin. While elevated, these lead concentrations were still generally below residential screening levels pertaining to human health exposure criteria.

Testing results from groundwater sampling indicated that only lead was detected above the applicable residential groundwater tap screening levels (at seven of the twenty homes) of the properties analyzed for heavy metal, VOC, PCB, and/or PFAS groundwater contamination. Based on MUNDELL's evaluation which considered potential lead sources and transport mechanisms, these lead exceedances appear to be more indicative of lead from corrosion in piping and the private well water distribution systems as compared to a groundwater lead plume. However, further data is needed to confirm this assessment.

MUNDELL recommends additional private well sampling and/or groundwater monitoring to help determine the source of lead detections in the private wells. In addition, MUNDELL recommends the County conduct community outreach to raise awareness and provide citizens with resources to address two environmental occurrences which appear to be relevant to portions of the surrounding community, namely:

- Elevated surficial soil lead concentrations are often found in urban regions as compared to background levels, especially closer to the City center and near industrial areas; and
- Households relying on private wells tend to have an increased risk of high lead in drinking water as compared to municipally supplied households due to the lack of treatment/monitoring, groundwater corrosivity, and pipe corrosion.

Lastly, MUNDELL recommends third-party oversight of land-use, on-going remediation, and industrial activity in the Industria Center to monitor the potential for future environmental impacts in the vicinity of the Industria Center.



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#### 1.0 BACKGROUND

The South Muncie Industria Center ("the Industria Center") consists of a mixed commercial/industrial setting of about 1,040 acres (1.63 square miles) located southwest of Muncie, Indiana. The Industria Center is mainly surrounded by residential and agricultural land to the west and south; commercial land and a golf course to the east; and agricultural, residential, and commercial land to the north. A Vicinity Map is presented in **Figure 1** and an Industria Center Area Map in **Figure 2**.

In 2020, MUNDELL conducted an environmental review of the Industria Center in response to a request from the Delaware County Redevelopment Commission (the County) and local concerned citizens. In particular, the community had concerns related to the potential for environmental impacts in the vicinity of the Industria Center due to its long history of commercial and industrial activity. Accordingly, MUNDELL completed its review and issued its findings and recommendations in its South Muncie Industrial Center Environmental Review report dated July 31, 2020, herein referred to as MUNDELL's 2020 Initial Environmental Review (or "2020 IER") (MUNDELL, 2020). Key findings from MUNDELL's initial report can be summarized as follows:

- Based on the review of environmental databases, regulatory information, interviews, topographic maps, aerial photography, and other related items, MUNDELL identified several potential environmental concerns related to the Industria Center that could impact the surrounding properties.
- 2) It was often the case that the potential environmental concern was not linked to one property, but to multiple properties within the Industria Center.
- 3) The review process focused primarily on the following contaminants of concern (COCs): heavy metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl (PFAS), and volatile and semi-volatile organic compounds (VOCs).
- 4) MUNDELL identified 'overarching' potential environmental concerns based on:
  - a. Sources: Property location and history;
  - b. COCs:
  - c. Considering atmospheric, hydrologic, and geologic conditions;
  - d. Considering transport mechanisms of contaminants in the environment; and
  - e. Exposure pathways.
- 5) MUNDELL developed ten (10) Sampling and Analysis Plans (SAPs) to address the specific issues identified in the 'overarching' concerns. These SAPs would provide critical data in an effort to identify the potential presence or absence of area-wide impacts.

This report documents the implementation of MUNDELL's recommended SAPs to address the concerns highlighted in the 2020 IER.



#### 2.0 INDUSTRIA CENTER INVESTIGATION

# 2.1 Addressing SAPs

The County requested MUNDELL to proceed with environmental investigations in response to MUNDELL's findings related to the Industria Center. As such, MUNDELL prepared a scope of work to address a portion of the SAPs prepared in its 2020 Initial Environmental Review. The goal of the current investigation was to address the following SAPs to varying degrees:

- SAP-A: Evaluate surface water discharge and heavy metals deposition along southwest drainage channel pathways (overarching concern: Southwest Drainage Basin).
- SAP-B: Evaluate surface water discharge relative to VOC's (overarching concern: Southwest Drainage Basin).
- SAP-C: Former landfill (overarching concern: Southwest Drainage Basin).
- SAP-E: Historic atmospheric deposition (overarching concern: historic toxic releases into the atmosphere).
- SAP-H: Private well monitoring (overarching concern: potential groundwater contamination).

A detailed description of each SAP and overarching concern can be found in MUNDELL's 2020 IER. The ultimate purpose of each SAP was to investigate areas with an increased risk for environmental impacts due to historical commercial/industrial activity in the Industria Center which may impact human health or the ecology. It should be noted that the areas under investigation did not have known or documented environmental impacts prior to the investigation but were identified as potential concerns during MUNDELL's 2020 IER. The investigation's sampling activities focused on potential surficial soil, surface water, and groundwater impacts. Industria Center related investigation activities are detailed in the following sections.

#### 2.2 Property Access

The sampling activities were conducted primarily on private property or in public right-of-ways (ROWs). As such, a significant effort was undertaken to acquire property access on residential, commercial, and industrial land in the Industria Center and surrounding area. Information packets (flyer, explanation letter, and/or access agreements) were prepared and sent to 356 property owners and/or current occupants. This allowed MUNDELL to access 43 private properties to



collect samples or conduct screening. In addition, multiple samples were collected in the public ROW and a legal drain.

In general, MUNDELL was able to access key properties related to each SAP and received relatively positive feedback from the surrounding community which were both needed to proceed with the SAP investigation. However, property access related issues did alter the scope of the investigation. In particular, the following issues were encountered:

- 1) SAP-C was meant to address the property at 4500 BLK S Hoyt Ave where a historic, unregulated landfill was located based on review of publicly available documentation. This property is herein referred to as the 'Former Franklin Landfill'. However, property access was not obtained to conduct investigations on the property itself. While this prevented certain portions of the planned SAP, SAP-C was still able to be addressed to a certain extent by sampling the surrounding area to test for evidence of contaminant migration from the Former Franklin Landfill property to nearby properties.
- 2) The multitude of properties contacted and included in the SAPs led to extensive communication efforts. This partnership and engagement with the community was necessary for the success of the investigation, but led to a significant amount of unanticipated work activities and associated costs. As such, the planned SAPs were adjusted to maximize the efficiency and impact of data collection for each mobilization considering the properties which had access agreements in-place and were available for sampling.
- 3) Site conditions at certain properties prevented the efficient collection of samples across properties. As such, in-field adjustments to the initial sampling plan were sometimes made considering field conditions, accessibility, and time constraints.

In addition to obtaining property access, MUNDELL sought permission from private property owners where samples were collected to include their street address in this public report. A majority of property owners agreed to release their address. For the small portion of property owners who did not agree, their address has been anonymized in the corresponding tables of results (**Table 2**, **Table 3**, and **Table 6**) out of respect for their individual concerns.

# 2.3 Sampling Activities and Results

During this phase of the investigation, MUNDELL mobilized multiple times addressing the various SAPs. This multi-stage approach allowed MUNDELL to actively evaluate results during the investigation to guide further subsequent sampling efforts and was helpful in addressing logistical challenges present in such a large-scale investigation.



# 2.3.1 October 2021: Soil Sampling

MUNDELL mobilized on October 20, 2021, to collect thirteen (13) surficial soil samples mainly addressing SAP-A and SAP-C at select locations indicated on **Figure 3**. Relative to SAP-A, the sampling locations were selected based on current and historical drainage pathways and floodplain areas associated with the Southwest Drainage Basin (MUNDELL, 2020). Relative to SAP-C, sampling locations were placed adjacent to the Former Franklin Landfill property and aligned with an apparent historical drainage pathway along the western portion of the property which could provide a source for surficial soil contamination (if present) to be tracked off-site (MUNDELL, 2020).

A steel hand trowel or steel shovel was used to excavate from the surface to a depth of approximately 6-inches. In some cases, excavation was only able to proceed to 3-in to 4-in due to the soil conditions. Vegetative material (e.g., roots, leaves, plant material), gravel, and/or other debris were removed to the extent possible. Soil was collected from this upper soil profile, homogenized in a plastic bag, and placed in a 4-oz glass sampling jar. Each soil sample was uniquely labeled, placed on ice in a cooler, and submitted to Pace Analytical (Pace) in Indianapolis, Indiana under standard chain-of-custody procedures.

Samples were submitted for analysis of eight (8) heavy metals typically associated with industrial activities (RCRA 8 Heavy Metals) including: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Soil samples were also analyzed for lithium due to local concern and the presence of battery recycling operations in the Industria Center. Heavy metals were analyzed via U.S. Environmental Protection Agency (U.S. EPA) Method 6010 (and U.S. EPA Method 7471 for mercury). After collection of the soil sample, the excess soil was returned to the sampled location, clean topsoil was added if necessary, and the vegetative material was restored.

For quality assurance and quality control (QA/QC) purposes, duplicate and matrix spike/matrix spike duplicate (MS/MSD) soil samples were also collected. An equipment blank sample was produced by pouring distilled water over the sampling equipment into a laboratory provided container and submitted for analysis. The hand trowel or shovel was decontaminated using phosphate-free detergent and rinse water following each soil sampling location.

#### 2.3.1.1 October 2021: Surficial Soil Analytical Results

Surficial soil sampling results are summarized in **Table 1**. Laboratory certificates of analysis and chains of custody are provided in **Appendix A**. The sampling locations and the corresponding lead results are visually represented in **Figure 3**. Based on laboratory analytical results, the four heavy metals cadmium, selenium, silver and mercury were not detected at the laboratory method detection limit for all samples collected during this mobilization. On the other hand, the five heavy metals arsenic, barium, chromium, lead and lithium were detected for each sample collected during



this mobilization. No chemical constituents were detected above the 2022 Indiana Department of Environmental Management (IDEM) Remediation Closure Guide (RCG) residential direct contact soil exposure screening level. However, arsenic was detected at two locations and lead at one location above the 2022 IDEM RCG Residential Soil Migration to Groundwater (R-MTG) screening level which indicates the potential to migrate to groundwater. Surficial soil analytical results are further discussed in **Section 3.0**.

# 2.3.1.2 October 2021: Geophysical Survey

A MUNDELL geophysicist mobilized on October 20, 2021, to map the surficial soils in the areas surrounding the SAP-A and SAP-C areas of interest using the CMD-Mini Explorer electromagnetic conductivity meter. This geophysical tool is a non-intrusive data gathering technique which allows for multi-depth profiling and mapping at the 0.8-ft, 1.6-ft, and 3.0-ft depth. The mapped 0 to 0.8-ft surficial soil profile is included in **Figure 4**. This geophysical survey was conducted with the intent of correlating surficial soil analytical results to soil variations which would then allow this technique to be employed later in the investigation as a screening tool to identify potential 'hot zones' and direct sampling activities. However, correlations between the mapped conductivity and heavy metals detected during this first mobilization were not readily apparent. As such, the use of this geophysical method as a screening tool was not employed during later stages of the investigation.

# 2.3.2 December 2021: XRF Soil Screening

On December 2, 3, and 6, 2021, MUNDELL directed the use of a field portable X-Ray Fluorescence (XRF) unit to conduct in-situ surficial soil screening in the vicinity of the Industria Center for the presence of RCRA 8 Heavy Metals. In total, 138 locations were analyzed at select locations as seen on **Figure 5**, with the XRF mainly addressing SAP-E, but also addressing SAP-A and SAP-C. Relative to SAP-A and SAP-C, XRF screening locations were selected along the historical drainage pathways and adjacent to the Former Franklin Landfill property in the Southwest Drainage Basin to compliment the surficial soil samples collected in October 2021 (MUNDELL, 2020).

Relative to SAP-E (i.e., which addressed concerns for historic atmospheric deposition of heavy metals), the ideal screening pattern for each residential property consisted of five (5) locations collected in a grid-type manner (U.S. EPA, 2002). In particular, the grid consisted of two (2) samples in the yard directly adjacent to the roadway, one (1) sample in the mid-front yard, one (1) sample in the mid-back yard, and one (1) sample in the backyard towards the property boundary. This sample grid was designed considering three potential sources of heavy metal in surficial soils:



- 1) Atmospheric deposition from commercial and industrial sources;
- 2) Deposition near the roadway from the vehicular traffic (e.g., from combustion of leaded gasoline or abraded tire material); and
- 3) Paint containing lead near the house (Davies, 1990; Fleming and Parle, 1977 as cited in Davies, 1990; IDEM, n.d.-b).

Since the focus of this investigation was to evaluate potential environmental impacts due to commercial/industrial activities rather than addressing environmental hazards which may be present at any given residential property not necessarily related to the nearby industrial activity, the sample grid was specifically designed to address only the first two potential sources of contamination (*i.e.*, related to atmospheric deposition and roadways servicing the Industrial Center). As such, no samples were collected in the immediate vicinity of a residential household structure. While the idealized grid consisted of five (5) samples per residential property, not all five (5) samples were collected at each property due to property access constraints, the size and/or orientation of structures on the property, and/or due to time constraints of sampling personnel. At minimum, at least one (1) sample directly adjacent to the roadway and at least one (1) sample in the residential property's yard were generally collected.

In-situ screening was conducted by technically qualified personnel using proper safety precautions. Personnel conducted screening using the Olympus/Vanta VCA model field portable XRF device (Serial No. 841443) in accordance with the manufacturer's instructions and U.S. EPA SW-846 Test Method 6200. A steel shovel was used to remove the upper vegetative layer (if present) and/or remove debris that may be present. Typically, this resulted in a screening depth between approximately 2-4 inches from the upper surface.

The tip of the XRF device was then placed on the soil, positioned such that the probe window was at a constant distance in close proximity to the soil but not directly touching the soil to prevent damaging or contamination of the probe window. The XRF device was then initiated by the field personnel, exposing the in-situ soil to primary radiation and detecting fluorescent and backscattered x-rays to quantitatively analyze for the presence of RCRA 8 Heavy Metals (U.S. EPA, 2007). The measurement time was typically about 50 seconds at each location. After completion of XRF screening, the sod or soil was restored to its existing state and MUNDELL documented the location with a global positioning system (GPS), photograph documentation, and typically marking the location with utility marking paint. A Trimble ProXRT with OmniSTAR differentially corrected GPS was used which offers sub-foot resolution under normal operating conditions.

For QA/QC purposes, the following standard operating procedures were implemented during the XRF field activities. The XRF energy calibrations were completed at the following frequencies at a minimum:



- 1) At the beginning of each workday, before any screening.
- 2) After changing XRF batteries or after the instrument is shut down.
- 3) At the end of the workday, after the completion of all screening.

Recalibration generally occurred at least once when ambient air temperature changed by 10°F or more.

In addition, instrument blanks were completed at the following intervals at a minimum:

- 1) At the beginning of each workday, before any screening.
- 2) Once per every twenty (20) samples (which was at least every 4 to 5 hours).
- 3) At the end of the workday, after the completion of all screening.

Field duplicate samples were completed every twenty (20) screening locations per day. A precision replicate was completed once per day which consisted of screening one location seven (7) times. The shovel was decontaminated using phosphate-free detergent and rinse water following each soil screening location. Lastly, as indicated on **Table 2**, various locations were screened on the surface without any excavation due to the absence of vegetation or debris. These locations serve, to a degree, as QA/QC equipment blank screening locations.

# 2.3.2.1 XRF Screening Results

XRF soil screening results are summarized in **Table 2**. The XRF raw data output is provided in Appendix B. The sampling locations and the corresponding lead results are visually represented in Figure 5. Based on the XRF analyses, chromium and mercury were not detected at all locations screened. Barium was detected at all screening locations; lead and silver were detected at several locations. However, barium, lead, and silver detections were below 2022 IDEM RCG R-MTG and residential direct contact soil exposure screening levels. Cadmium was only detected at one screening location where it exceeded the 2022 IDEM RCG residential direct contact soil exposure screening level. Selenium was detected at several screening locations, with a portion exceeding the 2022 IDEM RCG R-MTG screening level. Arsenic was detected at sixteen (16) locations, with five (5) exceeding the 2022 IDEM RCG R-MTG screening level, nine (9) exceeding the 2022 IDEM RCG residential direct contact soil exposure screening level, and two (2) exceeding the 2022 IDEM RCG industrial direct contact soil exposure screening level.

# 2.3.2.2 XRF Screening Limitations

XRF is a rapid, minimally invasive screening tool which allowed MUNDELL to efficiently screen a large quantity of locations to characterize heavy metals in the surficial soils in the vicinity of the Industria



Center (U.S. EPA, 2017). However, the XRF accuracy generally decreases with increasing soil heterogeneity (U.S. EPA, 2007; U.S. EPA, 2017). As such, the XRF is not as accurate when used on in-situ soils where sample homogenization is uncontrolled versus screening soil samples which are collected and homogenized (U.S. EPA, 2007; U.S. EPA, 2017). Accordingly, the use of XRF to screen in-situ soils is typically considered merely a 'screening' tool as compared to samples submitted for laboratory analytical analysis (U.S. EPA, 2007).

However, confirmatory soil samples may be used to validate the XRF's degree of accuracy and precision (U.S. EPA, 2007). In particular, XRF results can be considered screening level data if a linear least squares regression analysis of XRF results compared to laboratory analytical results equates to a correlation coefficient (r) value of 0.7 or greater (U.S. EPA, 2007).

# 2.3.2.3 January 2022: Confirmatory Soil Sampling

In accordance with U.S. EPA SW-846 Test Method 6200, one soil sample was submitted for laboratory analysis per every twenty (20) XRF screening locations analyzed. In addition, MUNDELL submitted confirmatory soil samples for laboratory analysis corresponding to fourteen (14) of the highest XRF lead results and for ten (10) of the sixteen (16) XRF locations which detected arsenic. Lastly, confirmatory samples were submitted for a range of lead and arsenic results spanning from non-detect levels up to the highest detection levels of the investigation. MUNDELL returned to the XRF screening locations and collected confirmatory soil samples on January 6 and January 7, 2022. At 20 of the 22 confirmatory sampling locations, MUNDELL was able to locate the exact XRF screening location and remove the same portion of sod and/or soil as done during the XRF screening location. At the two locations where the exact XRF location was not identified, a surficial soil sample was collected at the approximate same location based on GPS coordinates and photographic documentation.

Surficial soil samples were collected at each location, homogenizing the surficial soil profile from the surface to a depth of 6-inches following the same sampling procedures and quality assurance protocols as done during the October 2021 sampling event (refer to **Section 2.3.1** for further description). In addition, it should be noted that during this January 2022 mobilization, one (1) surficial soil sample was collected related to SAP-A and not related to XRF confirmatory soil sampling (sample ID "A49S").

# 2.3.2.4 January 2022: Confirmatory Soil Sampling Results

Confirmatory surficial soil sampling results are summarized in **Table 3**. Laboratory certificates of analysis and chains of custody are provided in **Appendix A**. The sampling locations and the corresponding lead results are visually represented in **Figure 6**. With the exception of sample "A49S",



the primary purpose of these samples was to validate the XRF analytical results. As such, MUNDELL conducted a linear regression analysis of XRF versus laboratory results for lead and arsenic. The regression analysis for lead resulted in an r-value of 0.76 and a slope of 1.47 with a 99% confidence interval of [0.93, 2.02]. With zero (0) not within the slope's 99% confidence interval and a statistical *p*-value <<0.005, the regression analysis confirms the linear relationship with a high degree of confidence. As such, the XRF results can be used as screening level data and provide reasonable estimates of laboratory analytical results for lead (Devore, 2012, p. 496-497; U.S. EPA, 2007).

Similarly, a regression analysis for the analyte arsenic resulted in an r-value of 0.82 and a slope of 1.01 with a 99% confidence interval of [0.44, 1.58]. With zero (0) not within the slope's 99% confidence interval and a statistical *p*-value <<0.005, the regression analysis confirms the linear relationship with a high degree of confidence. The regression analysis for lead and arsenic are included in **Figures 7** and **8**, respectively.

It should be noted that due to the low regulatory screening levels as compared to the XRF detection limits for arsenic, the laboratory detected arsenic at all of the confirmatory sampling locations where the XRF did not detect arsenic (which occurred at twelve (12) sampling locations). Of these twelve locations, the average laboratory concentration of arsenic was 9.1 mg/kg. Moreover, review of XRF duplicate samples indicates similar XRF precision capabilities pertaining to arsenic detection. As such, it appears that the XRF results can provide reasonable estimates of arsenic when it is detected. However, given the apparent XRF precision limitations pertaining to low-level arsenic detections, "non-detect" XRF arsenic readings do not necessarily correlate to "non-detect" laboratory analytical results. Surficial soil analytical results are further discussed in **Section 3.0**.

#### 2.3.3 January 2022: Surface Water Sampling

On January 6, 2022, MUNDELL collected three (3) surface water grab samples mainly addressing SAP-A and SAP-B, both of which relate to the potential concerns of the Southwest Drainage Basin. In particular, one sample was collected upstream of the retention pond/wetland area located at 4300 and 4400 BLK S Hoyt Ave, Parcel numbers 1130427009000 and 1130427008000 (herein referred to as the 'Retention Pond'), one sample from the Retention Pond, and one sample from Heath Ditch located downstream of the Retention Pond (Beacon™, 2022; MUNDELL, 2020; U.S. Fish and Wildlife Service [USFWS], 2020). These samples were meant to test for on-going releases to the surface water whether from industrial point-sources or from leaching of soil contamination.

Each surface water grab sample was collected with a separate laboratory-provided plastic container and poured directly in a container with the appropriate preservatives for the constituents analyzed, placed on ice in a

cooler, and submitted to Pace under standard chain-of-custody procedures. Surface water samples were submitted for the analysis of RCRA 8 Heavy Metals and lithium via U.S. EPA Method 6010 (and U.S. EPA Method 7470 for mercury) along with the analysis of VOCs via U.S. EPA SW-846 Test Method 5030/8260.

For QA/QC purposes, duplicate and MS/MSD surface water samples were also collected. A laboratory provided trip blank was placed in the sample cooler containing the surface water samples.

# 2.3.3.1 Surface Water Analytical Results

Surface water grab sampling results are summarized in **Table 4**. Laboratory certificates of analysis and chains of custody are provided in **Appendix A**. The sampling locations and the corresponding lead results are visually represented in **Figure 9**. Based on laboratory analytical results, all constituents were below detection limits with the exception of barium which was detected below all drinking water maximum contaminant or screening levels. Surface water analytical results are further discussed in **Section 3.0**.

# 2.3.4 January 2022: Sediment Sampling

On January 6, 2022, MUNDELL collected six (6) sediment samples at the bottom of drainage pathways mainly addressing SAP-A and SAP-B, both of which relate to the potential concerns of the Southwest Drainage Basin. Two (2) samples were collected in a drainage way upstream of the Retention Pond. One (1) sample was collected from Heath Ditch located downstream of the Retention Pond. Three (3) samples were collected in the Retention Pond area.

A storm drain inlet was observed at the southwest corner of the Retention Pond which discharges to Heath Ditch per review of local drainage patterns and per discussions with citizens in the area. MUNDELL observed a weir directly upstream of this inlet. As such, one of the Retention Pond samples was collected downstream of the weir adjacent to the storm drain inlet, one was collected adjacent and upstream of the weir, and one was collected further upstream of the weir near the banks of the Retention Pond. It should be noted that both the Muncie Sanitary District and the County Surveyor indicated to MUNDELL that they were not aware of this storm drain or storm drain inlet.

Each sediment sample was collected using a stainless-steel hand trowel to scoop sediment along the bottom surface of the drainage ditch or Retention Pond, scooping in the upstream direction when possible. When needed, the trowel was attached to a pole to collect the sediment sample. Care was taken to avoid loss of fine sediment to the extent possible. Each sediment sample was retained for laboratory analysis in accordance with U.S. EPA SW-846 Test Method 8260 using 5035 vial kits. In addition, sediment from each sample was placed in a 4-oz glass sampling jar. All sediment samples were placed on ice in a cooler and submitted to Pace under standard chain-of-custody procedures for the analysis of RCRA 8 Heavy Metals and lithium via U.S. EPA Method 6010



(and U.S. EPA Method 7471 for mercury) along with the analysis of VOCs via U.S. EPA SW-846 Test Method 8260.

For QA/QC purposes, duplicate and MS/MSD sediment samples were also collected. A laboratory provided trip blank was placed in the sample cooler containing the sediment water samples. An equipment blank sample was produced by pouring distilled water over the sampling equipment (hand trowel and pole). The hand trowel was decontaminated using phosphate-free detergent and rinse water following each soil sampling location.

# 2.3.4.1 Sediment Analytical Results

Sediment sampling results are summarized in **Table 5**. Laboratory certificates of analysis and chains of custody are provided in **Appendix A**. The sampling locations and the corresponding lead results are visually represented in **Figure 10**. Based on laboratory analytical results, the four heavy metals cadmium, selenium, silver, mercury, and all VOCs were not detected at laboratory method detection levels during this mobilization. On the other hand, the five heavy metals arsenic, barium, chromium, lead, and lithium were detected for each sample collected during this mobilization. No constituents were detected above the 2022 IDEM RCG residential direct contact soil exposure screening level. However, arsenic was detected above the 2022 IDEM RCG R-MTG screening level at one sampling location which indicates the potential for the constituent to migrate to groundwater.

It should be noted that due to a laboratory oversight, sediment sample A-47-sed and the corresponding MS/MSD were not analyzed for mercury. It should also be noted that an extensive evaluation of the potential effects of sediment chemical concentrations on ecological and/or associated human food chain threats was beyond the scope of this investigation. Sediment analytical results are further discussed in **Section 3.0**.

# 2.3.5 April 2022: Private Well Groundwater Sampling

On April 6 and 7, 2022, MUNDELL collected twenty (20) groundwater grab samples from private wells (mostly residential) mainly addressing SAP-H and SAP-C. Samples were collected at properties southwest of the Industria Center (expected cross-gradient groundwater flow), west of the Former Franklin Landfill (expected downgradient groundwater flow); west of the Industria Center (expected downgradient groundwater flow); and north-northwest of the Industria Center (expected downgradient groundwater flow) (Korinek, 2014; MUNDELL, 2020).

Prior to mobilizing, MUNDELL contacted each property owner to coordinate sampling activities, gather more information about the well, and determine the best sampling location to bypass any filters or water softeners. In total, 16 of 20 samples were taken from a location which the property owner indicated was either always or temporarily bypassing the water softener and/or filter. One (1)



property did not know if the water was directed through a water softener or filter prior to reaching the sampling location. At three (3) properties, the water passed through a water softener prior to reaching the sampling spigot. No aerator was present on any of the sampling spigots or connection points. Descriptions of the sampling locations are included on **Table 6**.

MUNDELL purged the first two properties with a ¾-in 75-ft expandable hose. However, this hose had a flow restrictor which limited the volumetric flow rate and consequently the total purge volume. As such, the MUNDELL purged the remaining 18 properties with a larger 5/8-in 50-ft garden hose with no restrictor. In-field measurements by MUNDELL indicated this change increased the flow rate from about 1.5 gallons per minute (gpm) to about 5.75 to 7 gpm. The first two properties were purged for 20 minutes, while the remaining properties were typically purged for 15 minutes. The purge time is included in **Table 6**.

After purging, the hose was removed from the spigot and the water pressure was decreased to a constant flow rate. Each groundwater grab sample was collected directly from the spigot into laboratory-provided containers with the appropriate preservatives for the constituents analyzed, placed on ice in cooler, and submitted to Pace under standard chain-of-custody procedures. The sampling containers did not touch any part of the spigot/faucet. All groundwater grab samples were submitted for the analysis of RCRA 8 Heavy Metals via U.S. EPA Method 200.8 (and EPA Method 245.1 for mercury) for drinking water along with the analysis of VOCs via U.S. EPA Method 524.2 for drinking water.

Samples at ten (10) properties located adjacent to and/or in the direction of groundwater flow from the Former Franklin Landfill (*i.e.*, downgradient from the landfill) were submitted for the analysis of PCBs via U.S. EPA Method 505 for drinking water. One (1) additional property to the northwest of the Industria Center, downgradient from a potential source of PCB groundwater contamination was also submitted for PCB analysis. Lastly, one property west of the Industria Center was submitted for the analysis of PFAS via U.S. EPA Method 537.1 for drinking water.

For QA/QC purposes, duplicate and MS/MSD groundwater samples were also collected. A laboratory provided trip blank and field blank was placed in the sample cooler and analyzed for PFAS.

# 2.3.5.1 Private Well Groundwater Analytical Results

Groundwater sampling results are summarized in **Table 6**. Laboratory certificates of analysis and chains of custody are provided in **Appendix A**. The sampling locations and the corresponding lead results are visually represented in **Figure 11**. Based on laboratory analytical results, the following constituents were below detection limits for all samples collected during this mobilization: chromium, selenium, and mercury. In addition, PCBs and PFAS were not detected for all samples analyzed for those two constituents. VOCs were below detection limits at all properties except for



one property which had detections of bromodichloromethane, chloroform, and dibromochloromethane. These VOC detections were below the 2022 IDEM RCG Residential Groundwater Tap screening levels (R-GTap).

Arsenic, barium, cadmium, selenium, and silver were detected at one or more properties but were detected below the 2022 IDEM RCG R-GTap. Lead was detected at fourteen (14) of the twenty (20) properties, with detection levels at seven (7) properties above the IDEM RCG R-GTap for lead. It should be noted that the field duplicate sample had a large relative percent difference (151%) for lead indicating an apparent lack of precision relative to the lead analytical results (U.S. EPA, 2014). Private well groundwater analytical results are further discussed in **Section 3.0**.



#### 3.0 DISCUSSION

During this Phase II investigation, multiple samples were collected from varying media in the areas surrounding the Industria Center. Each sample was a part of an SAP that was previously developed to address the potential presence (or absence) of area-wide environmental impacts linked to the historical Industria Center activities which may affect the local community. Given the wide scope of work and multitude of samples collected, care must be taken to properly characterize the results. In particular, the following issues must be considered when evaluating the data:

- SAP Limitations Individual Properties: While samples were collected at over 40 properties, neither the quantity of samples or the sample design was meant to provide a comprehensive or complete characterization of any individual property. As such, each sample should be considered relative to the goal of each SAP and the ultimate goal of the investigation.
- 2) SAP Limitations General: MUNDELL developed the SAPs based on its professional experience and judgement after extensive review of the Industria Center and considering transport mechanisms of the COCs related to the Industria Center along with the potential exposure pathways (i.e., whether the nearby population would ingest, inhale or come in dermal contact with the COCs). This type of judgmental sampling is an effective method to efficiently and cost effectively conduct initial environmental investigations (U.S. EPA, 2002). However, this methodology does have certain statistical limitations and the results must be evaluated recognizing the limitations of the dataset (U.S. EPA, 2002).
- 3) Background Concentrations: Some COCs, in particular heavy metals (i.e., lead and arsenic), occur naturally in the environment at what is considered 'background' concentrations (Alloway, 1990b; Gerba, 2006). As such, the mere detection of some constituents must be considered relative to these 'background' concentrations in order to differentiate the source of the detected COC.
- 4) Screening Levels: Any detection of a contaminant must be evaluated with respect to its mobility in the environment and its ability to impact human health or ecology (i.e., the fate of contaminants and exposure pathways). This potential risk was evaluated, in part, by comparing each chemical constituent to the appropriate risk-based screening levels for chemicals being tested in soil and water as set forth by IDEM. These screening levels are based on conservative, long-term exposure duration assumptions for a resident considering varying exposure routes developed by the U.S. EPA.

The following sections detail the methodical review and characterization of the sampling results considering the above criteria.



# 3.1 Property Notification

While the results should be considered in relation to the SAPs and overall objectives of the investigation, each property owner was provided with the results of the sampling activities conducted on their property. The results were included in a letter report briefly describing the investigation, the results, and providing further resources to reference if the property owner should desire to address the environmental conditions found at their specific property.

#### 3.2 Surficial Soil Evaluation

Surficial soils were analyzed during the October and December 2021 mobilization and the January 2022 mobilization. The October 2021 samples were submitted for laboratory analysis, while the December 2021 samples were analyzed via the field portable XRF device. The January 2022 samples submitted for laboratory analysis were generally meant as 'confirmatory' samples to establish the precision of the XRF device. In total, 36 surficial soil samples were submitted to the laboratory for analysis and 138 locations were analyzed with the XRF (not including QA/QC samples). As indicated in **Section 2.3.2.4**, given the high degree of correlation between the XRF and confirmatory laboratory samples, the XRF results can be utilized to guide the characterization of screened areas for lead and to an extent arsenic.

#### 3.2.1 Chemicals of Concern

A general summary of the October and December 2021 surficial soil analytical results is included in **Table 7**. The detected concentrations were consistently low and/or non-detect compared to the applicable soil screening levels for the following chemical constituents: barium, cadmium, chromium, lithium, selenium, silver, and mercury. The consistent and low detections indicate the concentrations are likely at or near background levels. As such, the data collected did not reveal the presence of a consistent, area-wide increase of these chemical constituents in surficial soil above background concentrations or applicable screening levels pertaining to public health in the areas adjacent to the Industria Center.

#### 3.2.1.1 Cadmium and Selenium Notes

It should be noted that cadmium was elevated above the 2022 IDEM RCG residential direct contact soil exposure screening level at one (1) location during the December surficial soil XRF analysis. However, multiple samples were collected at that property and in the adjacent area, and cadmium was not detected anywhere else. As such, it appears the cadmium detection is either a localized high level or an issue of precision relative to the XRF's in-situ screening ability.



In addition, it should be noted that a small portion (less than 13%) of the XRF locations analyzed detected selenium concentrations above the 2022 IDEM RCG R-MTG screening levels. However, review of XRF duplicate samples indicates that the low screening level may be within the instrument's precision capabilities. In addition, one confirmatory laboratory sample was collected at an XRF screening location which had a selenium detection above the 2022 IDEM RCG R-MTG. The XRF analysis detected 12 mg/kg of selenium at the A30 sampling location, while it was below detection limits (<1.3 mg/kg) for the confirmatory laboratory sample. As such, the observed selenium R-MTG exceedances detected with the XRF device appear to be an issue of precision related to the XRF's capabilities. Moreover, exceedances over the R-MTG screening level indicate the potential for the constituent to migrate to groundwater and selenium was below detection levels at all homes sampled during the April 2022 private well sampling event. Furthermore, many homes around the Industria Center are connected to the public water supply. As such, the data collected did not reveal the presence of a consistent, area-wide increase of selenium in surficial soil above background concentrations or applicable screening levels pertaining to public health in the areas adjacent to the Industria Center.

#### 3.2.1.2 Arsenic and Lead Notes

The heavy metals arsenic and lead had a wider range of detected concentrations, with a portion of the sampling locations for each chemical being at least above the 2022 IDEM RCG R-MTG screening levels. However, only one (1) property had lead detections above the 2022 IDEM RCG residential direct contact soil exposure screening level (Sample E64S during the January 2022 confirmatory sampling), and only a small portion of sampling locations detected arsenic above the 2022 IDEM RCG residential direct contact soil exposure screening level. Nevertheless, it is beneficial to review the arsenic and lead results in further detail to help identify how these results compare to background concentrations and identify any trends which may be present.

#### 3.2.2 Background Concentrations

#### 3.2.2.1 Lead

While lead appears naturally in soils at low concentrations, its ubiquitous use in residential, commercial, and industrial activities for centuries has resulted in widespread surficial soil contamination particularly in urban regions (Alloway, 1990a; Davies, 1990; U.S. EPA, 2020d). Moreover, once released to surficial soil, it can be considered permanent given its inability to breakdown and its immobilization in the soil profile (Davies, 1990; U.S. EPA, 2020d). As such, lead releases occurring in years or even decades



past may still pose a threat to human health or the environment today (Davies, 1990; U.S. EPA, 2020d).

Known major sources of lead in surficial soils include but are not limited to: mining and smelting activities; vehicular combustion of leaded gasoline; and past use of lead containing pesticides on orchards (Davies, 1990; Frank et al., 1976; Merry et al., 1983). Studies have found that urban cities often have increased lead contamination in surficial soils with higher concentrations often found towards the center of the City and near industrial areas (Czarnowska et al., 1992; Czarnowska et al., 1983; Alloway, 1990a; Davies, 1990; Liberti & Pichtel, 1997, Pichtel et al., 1997). In addition, studies have found increased lead concentrations in surficial soils near urban residential homes and adjacent to roadways due to lead paint and vehicular traffic, respectively (Davies, 1990). A 1997 study completed in Muncie, Indiana, observed similar findings with increased lead concentrations in surficial soils towards the city center of Muncie and along major roadways (Liberti & Pichtel, 1997).

Considering the above factors, the sampling results were sub-divided into two categories for further evaluation:

- Directional: Samples taken to the northeast versus those taken to the northwest, southwest, and southeast of the Industria Center (i.e., closer to the city center versus further away, and in the predominant wind direction); and
- Roadway Classification: Samples taken in the ditch of a residential property, directly adjacent to a major roadway versus those that are away from major roadways in the yard and/or are adjacent to a less traveled local street.

**Figure 12** includes the sampling areas relative to the directional split and the roadway classifications.

# 3.2.2.2 Lead Results Comparison

The sub-divided XRF analytical results between directional versus roadway classification are included in **Table 8a**. Also included in **Table 8a** are documented urban background surficial soil lead concentrations in two Indiana Cities (Indianapolis and Terre Haute) along with background surficial soil lead concentrations in rural Indiana based on a 2014 U.S. Geological Survey report (IDEM, 2014; IDEM, 2017a; Smith et al., 2014, as cited in IDEM, 2017a).

Review of the XRF data indicates the following observed trends:

Areas with Lowest Lead Levels – located northwest, southwest, or southeast of the Industria Center (not northeast) and adjacent to a local road or located in the yard away from a major roadway. These areas exhibit



concentrations similar to published background *rural* Indiana concentrations.

Areas with Moderate Lead Levels – located northwest, southwest, or southeast of the Industria Center (not northeast) and directly adjacent to a major roadway. These areas exhibit concentrations similar to background urban Indiana concentrations

Areas with Moderate to High Lead Levels – located to the northeast of the Industria Center, regardless of location relative to a roadway. These areas are elevated compared to background urban Indiana concentrations but are still all below 2022 IDEM RCG R-MTG and residential direct contact soil exposure screening levels.

Similarly, the sub-divided October 20, 2021 sampling results are included in **Table 8a**. Review of the October 2021 data indicates similar trends pertaining to those samples which are adjacent to a major roadway versus those which are away from the major roadways.

In addition, surficial soil samples from the October 2021, December 2021, and January 2022 sampling event were taken at locations specific to the Southwest Drainage Basin. The results at these sampling locations were also sub-divided based on their relative location (upstream/downstream) to the Retention Pond and their location on the drainage way channel or pond banks, and are included in **Table 8b**. Review of these drainage way subdivisions indicates the following trends:

Areas with Lowest Lead Levels – at locations which include:

- within the drainage channel downstream of Retention Pond;
- within the drainage channel upstream of the Retention Pond to the north; and
- within the drainage channel upstream of the Retention Pond to the south taken mid- to upper-bank.

These locations exhibit lead concentrations similar to background *rural* Indiana concentrations.

Areas with Moderate to High Lead Levels – at the sampling locations which include:

- along the banks of the Retention Pond; and
- within the drainage channel upstream of the Retention Pond to the south, taken along the lower-banks.

These locations exhibit elevated lead concentrations compared to background urban Indiana concentrations, but are still all below 2022 IDEM residential direct contact soil exposure screening levels.

This data analysis and comparison to background concentrations is further discussed relative to each SAP in **Section 3.4**.



#### 3.2.2.3 **Arsenic**

Arsenic is another metal which is found in surficial soils and can be naturally occurring or due to anthropogenic sources (Alloway, 1990b; O'Neill, 1990; IDEM, 2004). Anthropogenic sources of arsenic releases include, but are not limited to pesticides, fertilizers (particularly phosphate fertilizers), treated wood, mining, and smelting (IDEM, n.d.-a; Minnesota Department of Health [MDH], n.d.; O'Neill, 1990). Naturally occurring background concentrations of arsenic in surficial soils in Indiana can be elevated and in some cases above risk-based screening levels (IDEM, 2004). As such, it is important to consider background concentrations of arsenic when evaluating sampling results.

# 3.2.2.4 Arsenic Results Comparison

A 2004 IDEM document reported that naturally occurring background concentrations of arsenic in Indiana surficial soil can range from about 2 mg/kg up to 13 mg/kg (IDEM, 2004). More recent studies of urban background surficial soil arsenic concentrations in two Indiana Cities (Indianapolis and Terre Haute) along with background surficial soil arsenic concentrations in rural Indiana have indicated similar findings (IDEM, 2014; IDEM, 2017a; Smith et al., 2014, as cited in IDEM, 2017a).

Included in **Tables 1** and **3** are the arsenic results for the October 2021 and January 2022 sampling activities. All surficial soil samples collected in October 2021 and January 2022 detected arsenic concentrations in surficial soils. However, comparison of these results to background concentrations indicate that all surficial soil samples were within the range of 'naturally' occurring concentrations found in Indiana soils except for samples collected at two (2) properties. Of these two (2) properties with detections above 'typical' background concentrations, both were below the maximum arsenic concentrations found in the Indianapolis and rural Indiana background studies. While these two properties are both located to the northeast of the Industria Center, the detected concentrations are relatively high compared to all other sampling locations. As such, the elevated arsenic concentrations detected at these two (2) properties appears to be localized occurrences relative to each specific property.

It should be noted that the January 2022 surficial soil sampling results were used in this data evaluation instead of the XRF results due to the XRF precision limitations relative to arsenic at low detection levels, as noted in **Section 2.3.2.4**. However, further review of the XRF and confirmatory lab results indicates the XRF data pertaining to arsenic can still be of use. In particular, the maximum arsenic concentrations at 11 of the 12 confirmatory sampling locations where the XRF analysis was 'non-detect' was 9.8 mg/kg, which is typical of background arsenic concentrations in Indiana soil. As such, it may be reasonable to infer that 'non-detect' arsenic XRF readings are still generally at or below background concentrations.



Lastly, it should be noted that while arsenic detections were typically within background concentrations for Indiana soil, many locations also detected arsenic above the 2022 IDEM RCG R-MTG, indicating the potential for arsenic to migrate to groundwater. However, arsenic was below the 2022 IDEM RCG R-GTap at all private wells sampled during the April 2022 sampling event. In addition, many homes around the Industria Center are connected to the public water supply. As such, the data collected did not reveal the presence of a consistent, area-wide increase of arsenic concentrations in surficial soil above background concentrations or applicable screening levels pertaining to public health in the areas adjacent to the Industria Center.

#### 3.3 Groundwater Evaluation

#### 3.3.1 Chemicals of Concern - VOC/PCB/PFAS

Groundwater samples were collected from 20 private wells during April 2022. As indicated in **Section 2.3.5.1**, PCBs and PFAS were not detected in any of the samples submitted for PCB or PFAS analysis. The only VOCs detected, bromodichloromethane, chloroform, and dibromochloromethane, were detected at one property but were below the 2022 IDEM RCG R-GTap. Furthermore, these VOC detections occurred at a property which is connected to the public water supply for drinking water, but which reported that the spigot used for sampling in the front yard was still connected to a private well which they only use for gardening purposes. Considering that bromodichloromethane, chloroform, and dibromochloromethane are common byproducts of water which has been treated with chlorine (i.e., municipal water supplies), it appears that the sampled spigot might actually be connected to the municipal water source that supplies the property with drinking water (Agency for Toxic Substances and Disease Registry [ATSDR], 2015a; ATSDR, 2015b; ATSDR, 2020). Regardless, the data collected did not reveal a consistent, area-wide presence of these chemical constituents in groundwater above applicable screening levels pertaining to public health in the areas adjacent to the Industria Center.

# 3.3.2 Chemicals of Concern – Heavy Metals

Heavy metals can naturally occur in groundwater at background concentrations in Indiana. For example, in the 2016 Statewide Groundwater Monitoring Report completed by IDEM, 147 of 390 samples detected arsenic in the groundwater above 2 micrograms per liter (µg/L), with an average of 4.34 µg/L (IDEM, 2016). The groundwater results of MUNDELL's investigation revealed that the arsenic concentrations at the properties sampled are consistent with Indiana background concentrations. Moreover, the heavy metals were consistently non-detect or low as compared to the applicable screening levels for all heavy metals analyzed with the exception of lead. In addition, it should be noted that some surficial soil samples detected arsenic, cadmium, lead, and selenium



above the 2022 IDEM RCG R-MTG, indicating the potential to migrate to groundwater. However, the arsenic, cadmium, and selenium groundwater sampling results were non-detect or consistently low compared to the applicate screening level. As such, the data collected did not reveal the presence of a consistent, area-wide increase of these heavy metals in groundwater above background concentrations or applicable screening levels pertaining to public health in the areas adjacent to the Industria Center, with the exception of lead. Further discussion of the lead results is included in the following section considering background concentrations and potential sources.

#### 3.3.3 Lead Sources in Groundwater and Private Wells

While lead is commonly found naturally occurring in minerals and soils, its potential to leach from the soil into the groundwater is typically low across the U.S. due to common geochemistry conditions and the soil's natural capacity to adsorb lead (Davies, 1990; Hem, 1985; Indiana Department of Natural Resources [IDNR], 2002; Jurgens et al., 2019). In fact, reports from the Indiana Department of Natural Resources (IDNR), the United States Geological Survey (USGS), and the National Groundwater Association indicate that naturally occurring lead in groundwater is typically low or non-detect (Belitz et al., 2016; Hem, 1985; IDNR, 2002; Jurgens et al., 2019; Virginia Department of Health [VDH], n.d.). In addition, studies have shown that anthropogenic sources of lead deposited to surficial soils typically remain in the upper soil layers and do not leach to the underlying groundwater system (Davies, 1990; Zimdahl and Skogerboe, 1977, as cited in Davies, 1990).

Nevertheless, studies have shown that households relying on private wells have an increased risk of high lead concentrations in drinking water as compared to those relying on publicly supplied drinking water (Centers for Disease Control and Prevention [CDC], 2021; Gibson et al., 2020; Jurgens et al., 2019). For instance, a recent study based on an analysis of blood lead levels from 59,483 children in North Carolina found that:

"...children in homes relying on private wells have 25% increased odds... of elevated blood Pb (lead), compared with children in houses served by a community water system that is regulated under the Safe Drinking Water Act" (Gibson et al., 2020).

Moreover, another recent study conducted in Wake County, North Carolina found that lead prevalence in drinking water of households relying on private wells was similar to that found in Flint, Michigan, during the recent water crisis (Gibson et al., 2020; Stillo and MacDonald Gibson, 2018).

These typical high occurrences of lead in private well water are not due to lead in the groundwater itself, but rather due to the combination of corrosive groundwater and lead found in the private well and plumbing water distribution system (Belitz et al., 2016; CDC, 2021; Gibson et al., 2020; Jurgens et al., 2019; VDH, n.d.). Unlike water utility providers which are required to monitor for lead



and apply corrosion treatment to the water, if needed, the Safe Drinking Water Act does not require monitoring or corrosion treatment of private well water (CDC, 2021; Gibson et al., 2020; Indiana Department of Health [IDH], 2022). Possible lead sources in a household supplied by a private well include the well casing, piping, lead solder, brass fittings in a submersible pump, and "packer" elements used to seal the well (CDC, 2022; IDH, n.d.; VDH, n.d.).

# 3.3.4 Groundwater Sampling Results - Lead

Review of the lead detections in groundwater samples indicated a relatively even spatial distribution of detection levels. In particular, the following was observed:

- 1) Detection Levels Even Distribution
  - a. Six (6) properties: lead below detection limits;
  - b. Seven (7) properties: lead above detection limits but below the regulatory screening level; and
  - c. Seven (7) properties: lead above the regulatory screening level.
- Spatial Distribution: Properties with detections above the regulatory screening level were adjacent to properties below the screening level or below detections levels, and vice versa.

In addition, six (6) of the seven (7) properties with detection levels above the screening levels were within a consistent range (15 to 32 µg/L). The relatively even distribution of results (both spatially and in terms of magnitude) along with consideration of the subsurface transport mechanisms of lead and typical sources of lead in private wells, are more indicative of localized sources of lead at each individual property (*i.e.*, pipe corrosion) versus an area-wide groundwater plume of lead. Moreover, lead due to corrosion appears to be a more likely cause considering the expected groundwater flow in the region and the potential industrial sources of subsurface lead impacts in the region (with no apparent upgradient sources at sampling locations DW-1 through DW-8 (south of West Fuson Road)). Lastly, an industrial source of groundwater lead plume would likely be paired with other heavy metals releases, and lead was the only chemical constituent detected above background concentrations. This analysis is further discussed relative to the SAPs in **Section 3.4**.

#### 3.4 SAP Discussion

Considering the aforementioned data analysis, characterization and comparison to background concentrations, the following summarizes the evaluation of results relative to each SAP:



# 3.4.1 SAP-A Drainage Channel (Southwest Drainage Basin)

The purpose of SAP-A was to evaluate the potential for heavy metal deposition and contamination of soils, sediment or water along the drainage pathways and floodplain areas downstream of the Industria Center. In particular, samples were taken in the drainage channels upstream of the Retention Pond at 4300/4400 BLK South Hoyt Avenue, within the Retention Pond area, and downstream of the Retention Pond. Sampling activities which addressed this SAP either directly or indirectly include:

- Surficial soil sampling (October 2021, December 2021, and January 2022);
- Surface water sampling (January 2022); and
- Sediment sampling (January 2022).

Based on sampling results and considering background concentrations along with exposure pathways, the data collected did not reveal the presence of a consistent, area-wide increase of heavy metal impacts above background concentrations or applicable screening levels pertaining to public health in the Southwest Drainage Basin of the Industria Center with the exception of lead.

Surficial soil and sediment samples detected elevated lead concentrations above background levels at the following sampling locations:

- 1) Along the banks of the Retention Pond (Surficial Soil Sample A9; Sediment Sample A50sed).
- 2) Channel upstream of the Retention Pond to the south taken along the lower-banks (surficial soil samples A12 and A49S; XRF sample A14X; sediment sample A48-sed).

However, these soil samples were below 2022 IDEM RCG residential direct contact soil exposure screening levels, and only one sample was above the 2022 IDEM RCG R-MTG. Moreover, surface water, sediment, and surficial soil samples downstream of the Retention Pond and along the upper banks of the south drainage ditch detected lower lead concentrations consistent with background levels. As such, it appears this increased lead concentration is currently isolated to the Retention Pond and along the southern drainage ditch leading to the Retention Pond, and no evidence of leaching or downstream transport of the lead has been detected.

It should be noted that an extensive evaluation of potential effects of sediment chemical concentrations on ecological and/or associated human food chain threats was beyond the scope of this investigation.

# 3.4.2 SAP-B Surface Water Discharge (Southwest Drainage Basin)

The purpose of this SAP was to evaluate the potential for on-going releases of heavy metals or VOCs to the surface water along the drainage pathways of the



Southwest Drainage Basin downstream of the Industria Center. The surface water samples collected in January 2022 did not reveal the presence of heavy metal or VOC surface water contamination in the Southwest Drainage Basin of the Industria Center.

# 3.4.3 SAP-C Former Landfill (Southwest Drainage Basin)

The purpose of this SAP was to further investigate the historic, unregulated Former Franklin Landfill. Due to property access issues, MUNDELL was only able to collect samples adjacent to the property in an effort to investigate the potential for off-site migration of contaminants which may impact the adjacent residential and church properties. Sampling activities which addressed this SAP either directly or indirectly include:

- Surficial soil sampling (October 2021, December 2021, and January 2022); and
- Private well groundwater sampling (April 2022).

The data collected did not reveal the presence of heavy metals in surficial soils above background concentrations or applicable screening levels pertaining to public health migrating from the Former Franklin Landfill impacting the adjacent residential and church properties.

Groundwater samples were also collected at residential and a church property downgradient or cross-gradient of the groundwater flow from the Former Franklin Landfill. As indicated in **Section 3.3**, lead was the only constituent detected in the groundwater samples above the 2022 IDEM RCG R-GTap. Moreover, the lead concentrations detected at the properties downgradient and/or cross-gradient had a wide range of lead concentrations spanning from non-detect to the highest lead detection level (at DW-17). As further discussed in **Section 3.3.5**, it appears that these elevated lead detections may be more indicative of corrosion in the private well and/or water distribution system compared to the presence of a groundwater lead plume. However, further sampling data is required to confirm this assessment and better characterize the results.

# 3.4.4 SAP-E Historic Atmospheric Deposition

The purpose of this SAP was to evaluate the potential for surficial soil impacts related to heavy metal deposition (particularly lead) from historic atmospheric releases related to industrial activity. Sampling activities which addressed this SAP either directly or indirectly included the surficial soil sampling events (October 2021, December 2021, and January 2022). As indicated in **Section 3.2**, the data collected did not reveal the presence of a consistent, area-wide increase of arsenic, barium, cadmium, chromium, lithium, selenium, silver, and mercury in surficial soils above background concentrations or applicable screening levels pertaining to public health in the areas adjacent to the Industrial Center.



Evaluation of the lead results did indicate areas with a higher occurrence of increased lead concentrations in the upper soil layer. However, the observed trends aligned with background concentrations and typical trends to be expected in urban areas. In particular, lead concentrations comparable to *rural* Indiana background concentrations were observed in areas away from major roadways and further away from the urban center (*i.e.*, to the northwest, southwest, and southeast of the Industria Center). Lead concentrations comparable to *urban* Indiana background concentrations were observed directly adjacent to major roadways but still away from the urban center. As such, the data collected did not reveal the presence of a consistent, area-wide increase of lead in surficial soil above background concentrations or applicable screening levels pertaining to public health in the areas to the northwest, southwest, and southeast of the Industria Center.

On the other hand, the highest lead detections in surficial soil samples in this investigation were observed to the northeast of the Industria Center regardless of proximity to major roadways with average detections above urban Indiana background concentration. The observed increase to the northeast of the Industria Center aligns with the predominant wind direction in the area which is from the west/southwest to the east/northeast (MUNDELL, 2020). However, as described in **Section 3.2.2.1**, surficial soil lead concentrations are typically higher towards the city center and near industrial areas, and a past study conducted in Muncie found similar trends (Czarnowska et al., 1992; Czarnowska et al., 1983; Alloway, 1990a; Davies, 1990; Liberti & Pichtel, 1997, Pichtel et al., 1997). Therefore, this observed increase of lead to the northeast may be linked not only to the Industria Center but also to other industries, both past or present, found towards the center of Muncie.

Regardless, lead concentrations at all samples except for one (1) were below the applicable 2022 IDEM RCG residential direct contact soil exposure screening level. Moreover, the average lead concentrations detected to the northeast of the Industria Center were comparable or less than lead levels found in urban residential soils, parkways, and/or garden areas in cities across the U.S. such as Chicago; Durham, North Carolina; and Washington, D.C. (Davies, 1990; Preer et al., 1984; Wade et al., 2021; Watson et al., 2022). As such, the data collected does not reveal the presence of area-wide surficial soil lead contamination above what might be expected in other cities with historical industrial activity. In addition, the lead levels did not exceed regulatory residential soil screening levels that would require any kind of large-scale remedial effort.

This observed increase of surficial soil lead contamination above background concentrations to the northeast of the Industria Center and closer to the city center highlights the importance for those who live in the proximity of the Muncie city center to:



- 1) Be aware of the increased potential of lead contamination in urban surficial soils; and
- 2) Be aware of steps that can be taken to reduce exposure to lead contamination.

# 3.4.5 SAP-H Private Well Monitoring

The purpose of this SAP was to evaluate the potential for groundwater contamination related to Industria Center activity. The groundwater private well sampling event conducted in April 2022 addressed this SAP directly. As indicated in **Section 3.3**, lead was the only chemical constituent detected in the groundwater samples above the 2022 IDEM RCG R-GTap. However, these elevated lead concentrations are more indicative of corrosion in the private well and water distribution system than possible impacts from a groundwater lead plume. Nevertheless, further sampling data is needed to confirm this assessment and better characterize the groundwater results based on the following observations:

- 1) One sampling event is not sufficient to fully characterize the groundwater quality on any individual property;
- Considering the typical limited lead subsurface solubility and mobility caused by site-specific geochemical conditions, additional sampling of the wells to measure multiple additional geochemical parameters would likely resolve the potential source of the detected lead concentrations (Mundell et al., 1987); and
- 3) Varying results warrant further sampling. For example, IDEM conducted private well sampling in 2019 in the area and a portion of the properties were re-sampled during MUNDELL's 2022 investigation (see IDEM Virtual File Cabinet (VFC) document number 82828705) (IDEM, 2017b). While some of the results were similar to MUNDELL's investigation, other properties significantly differed. Most notably, the highest detected lead concentration during MUNDELL's sampling (DW-17) was below the screening level (less than 15 μg/L) during the 2019 IDEM sampling event. This property should receive additional evaluation to resolve this discrepancy since it is downgradient of the Former Franklin Landfill property.

In summary, initial review of MUNDELL's April 2022 investigation appears to confirm past studies which have indicated increased risk of lead exposure in private wells due to groundwater corrosivity and pipe corrosion, but further investigation is needed to confirm this evaluation.

# 3.4.6 SAP-G Groundwater Monitoring Vapor Intrusion

The purpose of this SAP was to evaluate the potential presence of shallow groundwater VOC impacts related to Industria Center activity which could pose



a vapor intrusion threat. The private well sampling event conducted in April 2022 provided initial results indicating no evidence of a VOC groundwater plume above applicable screening levels pertaining to public health in the areas adjacent to the Industria Center. However, the sampling activities and methodology completed during this investigation did not provide sufficient data to fully address this SAP.



#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

# 4.1 Investigation Summary and Findings

Based on the sampling activities conducted surrounding the Industria Center by MUNDELL and an evaluation of the sampling results, the following can be concluded:

- Soil, sediment, surface water, and groundwater samples were collected on private property and in public ROW in the vicinity of the Industria Center addressing to varying degrees six (6) of the ten (10) SAPs developed during MUNDELL's 2020 Initial Environmental Review.
- 2) In total, the following sampling activities were completed during eight (8) mobilizations from October 2021 through April 2022 (not including QA/QC samples):
  - a. Fourteen (14) surficial soil samples were submitted for laboratory analysis;
  - b. 138 in-situ soil samples were analyzed via the field portable XRF device:
  - c. Twenty-two (22) confirmatory surficial soil samples were submitted for laboratory analysis confirming the XRF results;
  - d. Six (6) sediment samples and three (3) surface water samples were submitted for laboratory analysis; and
  - e. Twenty (20) private well groundwater samples were submitted for laboratory analysis.
- 3) Southwest Drainage Basin (SAP-A & SAP-B) Analytical results of soil, sediment, and surface water samples collected in the Southwest Drainage Basin of the Industria Center did not reveal the presence of a consistent, area-wide heavy metal contamination above applicable residential screening levels; did not identify VOC contamination; and did not identify downstream leaching or migration of heavy metal or VOC contamination.
- 4) Historic Atmospheric Deposition (SAP-E) Surficial soil analytical results did not reveal the presence of area-wide heavy metal contamination above background concentrations for all constituents analyzed, except for lead. Regarding lead, the following was observed:
  - a. Surficial soil lead concentrations in areas to the northwest, southwest, and southeast of the Industria Center (*i.e.*, further away from the Muncie city Center) were generally comparable to rural



- Indiana background concentrations or urban Indiana background concentrations if directly adjacent to major roadways.
- b. Surficial soil lead concentrations to the northeast of the Industria Center (i.e., closer to the Muncie city center and downwind of the Industria Center) were generally elevated compared to urban Indiana background concentrations, but still below residential screening levels pertaining to human health exposure criteria. Moreover, the average lead concentrations detected to the northeast were comparable to or less than surficial soil lead concentrations found in other urban cities across the country as indicated in Section 3.4.4.
- 5) Private Well Monitoring (SAP-H) At the properties analyzed for heavy metal, VOC, PCB, and/or PFAS groundwater impacts, only lead was detected above 2022 IDEM RCG residential groundwater tap screening levels at seven (7) of the twenty (20) private wells sampled (i.e., 35% of the wells sampled were above 15 μg/L). Based on the evaluation of the results and considering lead sources and transport mechanisms, these lead exceedances appear to be more indicative of lead from corrosion in piping and the private well water distribution systems as compared to a groundwater lead plume. However, further data is needed to confirm this assessment.
- 6) Former Landfill (SAP-C) Investigations were not conducted on the Former Franklin Landfill property, but surficial soil analytical results on adjacent properties did not reveal the presence of off-site migration of heavy metal contamination from this site. Initial evaluation of groundwater sampling from private wells downgradient and cross-gradient from this site was not indicative of a heavy metal groundwater plume, and did not reveal a VOC or PCB groundwater plume linked to this property. However, due to lead exceedances at a portion of downgradient private wells, further sampling is needed to confirm this assessment.
- 7) Groundwater Monitoring Vapor Intrusion (SAP-G) Private well sampling partially addressed this SAP, and initial results did not reveal the presence of a VOC groundwater plume. However, the sampling methodology did not fully address this SAP.

# 4.2 Recommendations

# 4.2.1 Further Investigation - Groundwater Sampling

MUNDELL recommends additional private well sampling and/or groundwater monitoring to test for the presence of lead and include additional geochemical parameters to help determine the source of lead detections in the private wells. This additional investigation would provide data to further evaluate SAP-H (private well monitoring) and SAP-C (Former Franklin Landfill).



### 4.2.2 Community Outreach

### 4.2.2.1 Surficial Soil - Lead

Higher surficial soil lead concentrations are often found in urban regions as compared to background levels. As such, countless resources have been developed and are available which provide recommendations for residents living in urban areas on ways to reduce or eliminate their exposure to lead. Given the analytical results of this investigation, it would be beneficial for the County to implement a community outreach program to raise awareness, provide resources, and promote the public health and safety of the community. Furthermore, it could be an opportune time to pursue a potential partnership with the Delaware County Board of Health and the Indiana State Health Department to coordinate lead testing for at risk populations in the community (*i.e.*, pregnant women and children 6-years and under). These efforts could also address SAP-I (voluntary lead testing of citizens) recommended by MUNDELL in its 2020 Initial Environmental Review.

### 4.2.2.2 Private Wells - Lead

In addition to conducting further private well sampling, MUNDELL recommends community outreach to private well owners considering households relying on private wells have an increased risk of elevated lead in drinking water as compared to municipally supplied sources due to:

- 1) The interactions of corrosive groundwater and lead present in the private well system; and
- 2) Private wells are not regulated (*i.e.*, not monitored or treated) by the U.S. EPA or IDEM (Belitz et al., 2016; CDC, 2021; Gibson et al., 2020; IDH, 2022; Jurgens et al., 2019; VDH, n.d.).

This voluntary outreach would provide the residents with the information necessary to appropriately test, treat, and maintain their water system and associated water quality at their property.

### 4.2.3 Continued Monitoring

### 4.2.3.1 Southwest Drainage Basin

MUNDELL recommends the County monitor the land use in the Southwest Drainage Basin of the Industria Center. This limited investigation did not indicate the presence of downstream leaching or migration of heavy metals or VOCs from the Southwest Drainage Basin due to industrial activity. However, as indicated previously, this investigation was limited in scope and the results cannot be used to thoroughly characterize any individual property. As such, there remains a concern for potential heavy metal contamination at the Retention Pond property due to historical industrial



activity in the area. In addition, a thorough on-site evaluation and characterization of the Former Franklin Landfill has not been completed at this time. Accordingly, MUNDELL recommends the County, at minimum, monitor the area for any change in land-use or development as this may disturb any contaminants which may exist on these properties altering the exposure risk in the area.

### 4.2.3.2 On-going Remediation / Monitoring

As indicated in MUNDELL's 2020 Initial Environmental Review, there remains known impacts within the Industria Center where either contaminant delineation or remediation is occurring and properties with Environmental Restriction Covenants (ERCs). In accordance with SAP-J, MUNDELL reaffirms its recommendation that a third party provide oversight to monitor the progress of selected properties where remediation is ongoing or where contamination still exists in the context of an ERC. This activity would also help guide any future recommendations for further investigations that may be needed.



### 5.0 LIMITATIONS

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, area observations, field exploration, and laboratory test data presented in this report.

It should be noted that environmental evaluations are inherently limited in the sense that conclusions are drawn, and recommendations developed from information obtained from limited research and area evaluation. For these types of evaluations, it is often necessary to use information prepared by others and MUNDELL cannot be responsible for the accuracy of such information. Additionally, the passage of time may result in a change in the environmental characteristics at the Industria Center and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present of a type or at a location not investigated. This report is not a regulatory compliance audit and is not intended to satisfy the requirements of any state, federal, or local real estate transfer laws.

The conclusions presented in this report are also, in part, based upon environmental sampling performed at selected locations and depths. There may be conditions between sampling locations that differ significantly from those presented in this report and which cannot be predicted by this study.

Our conclusions regarding the potential environmental impact of nearby, off-site facilities are based on readily available information from the environmental databases and the indicated groundwater flow direction. A detailed file review of each facility was beyond the scope of work included in MUNDELL's Initial Environmental Review and this current Phase II study.

MUNDELL previously reviewed past ownership of the properties in the Industria Center during the 2020 Initial Environmental Review in an attempt to determine past property usage. MUNDELL is not a professional title insurance firm and makes no guarantee, explicit or implied that the listing reviewed represented a comprehensive delineation of past property ownership or tenancy for legal purposes.

MUNDELL does not warrant the correctness, completeness, currentness, merchantability, or fitness of any information related to records review provided in its previous 2020 Initial Environmental Review upon which this current study is based. Such information is not the product of an independent review conducted by MUNDELL but is



only publicly available environmental information maintained by federal, state, and local government agencies.

This report is intended for the sole use of Delaware County Redevelopment Commission. This report may not be used or relied upon by any other party without the written consent of MUNDELL. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.



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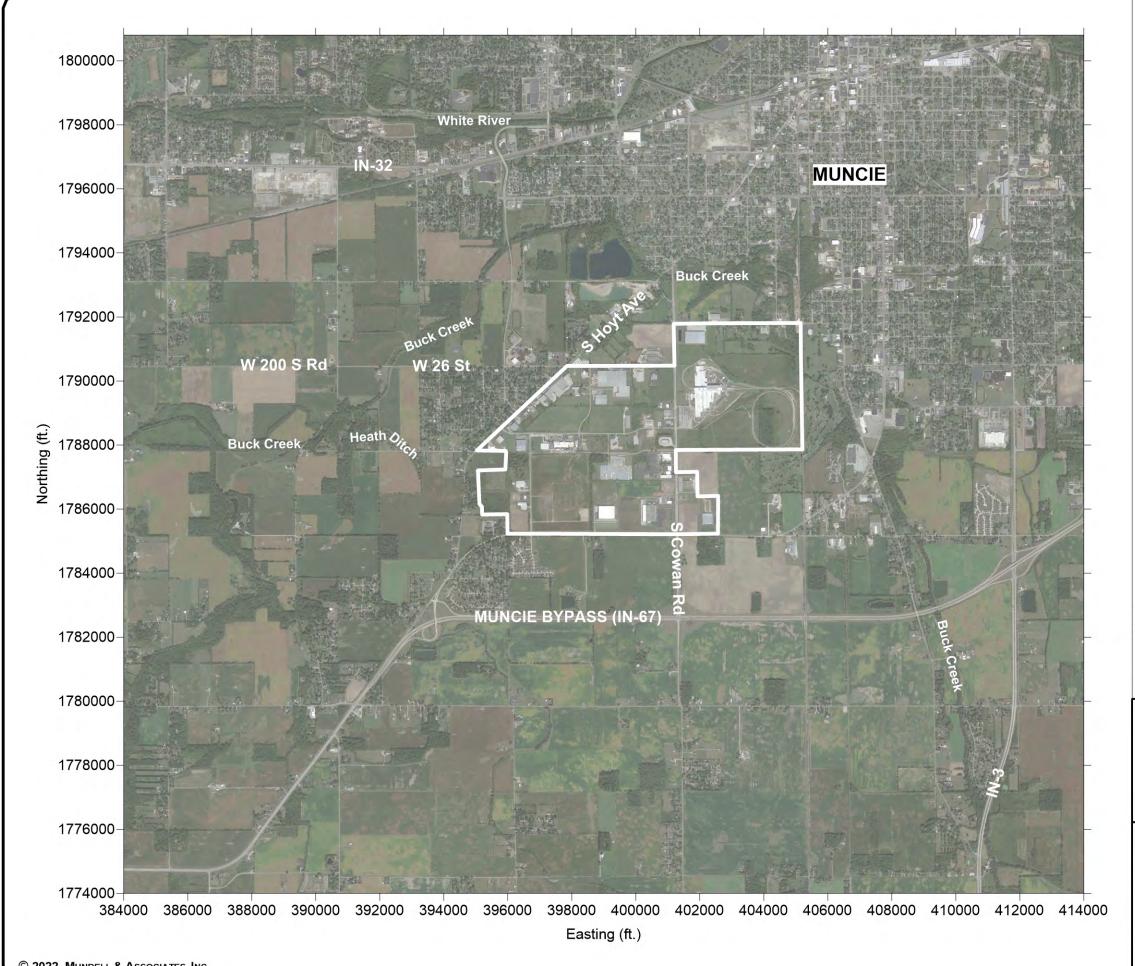
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## **FIGURES**

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Figure 11.	Private Well Groundwater Sampling
Figure 12.	Comparison XRF Directional & Roadway

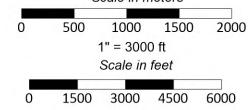






South Muncie Industria Center





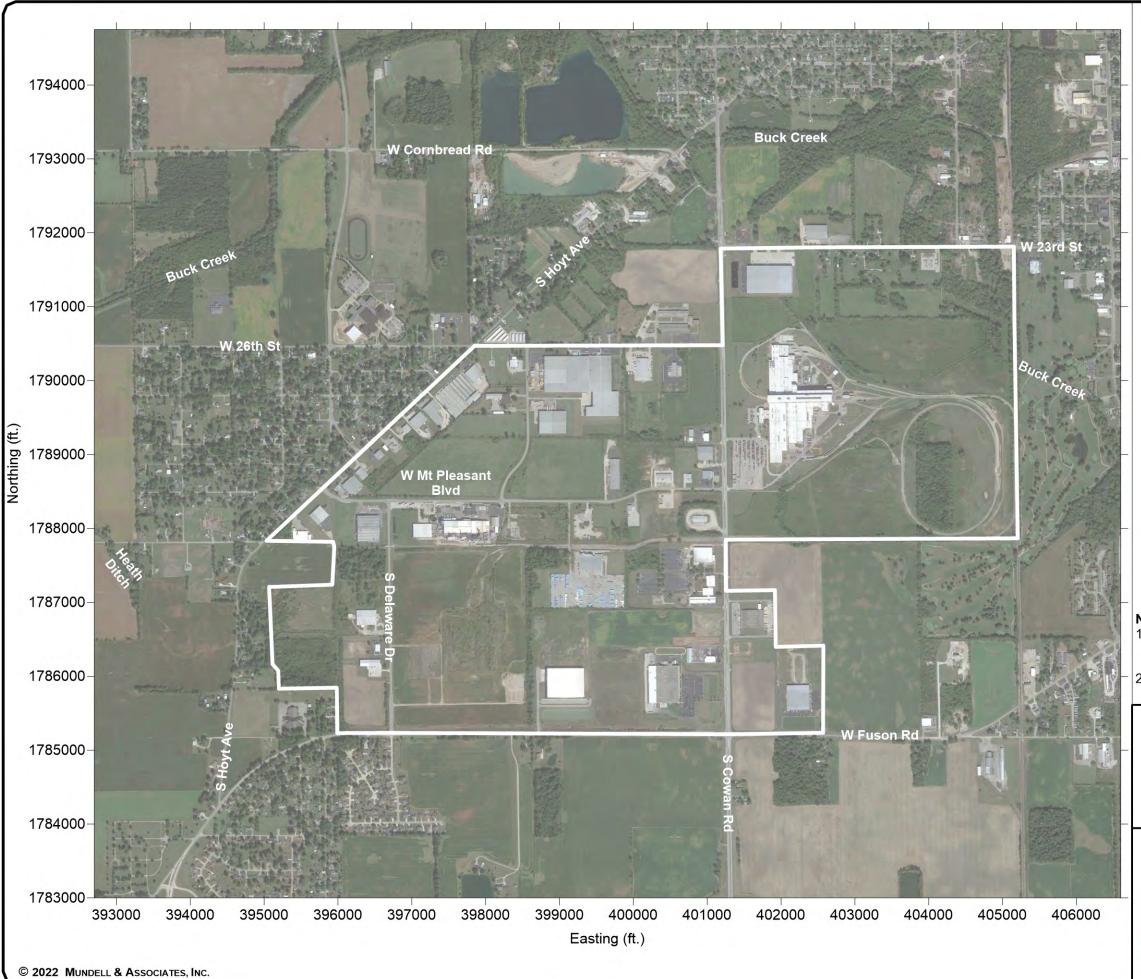
### NOTES:

- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.

## **Vicinity Map**

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032

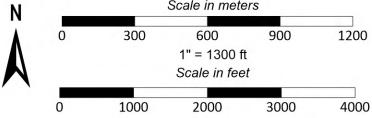






South Muncie Industria Center





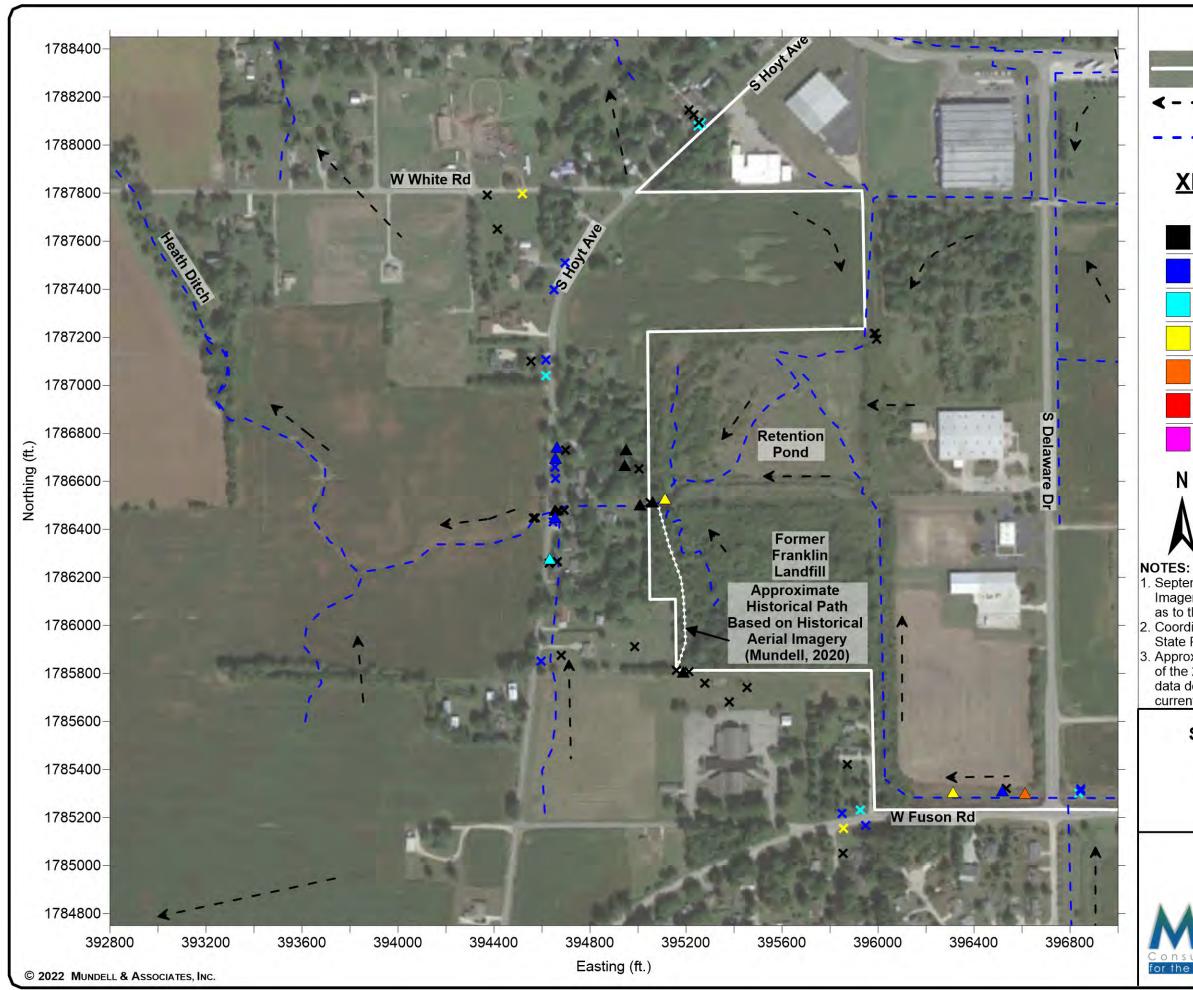
### NOTES:

- September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
   Coordinates are referenced according to Indiana East (Feet)
- State Plane 1983 Datum.

## **Industria Center Area Map**

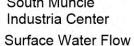
South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032



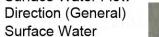


South Muncie Industria Center

Drainageways



Surficial Soil Sampling (10/2021 and A49S Collected 1/2022)





XRF Sampling Location (12/2021)

# XRF/Laboratory Soil Lead Results

mg/kg	Description
<= 28.7	<u>Less than</u> Background Rural Indiana (includes "Non-Detect")
<= 62.5	Less than Background Urban Indiana (Indianapolis/Terre Haute)
<= 92	Less than Average XRF Results to Northeast of Industria Center
<= 270	<u>Less than</u> 2022 IDEM Residential Migration to Groundwater
<= 400	Less than 2022 IDEM Residential Direct Contact
<= 800	Less than 2022 IDEM Industrial Direct Contact
>= 800	Greater than 2022 IDEM Industrial Direct Contact
N	Scale in meters
14	



240 120 180 1'' = 400 ftScale in feet 400 600 200

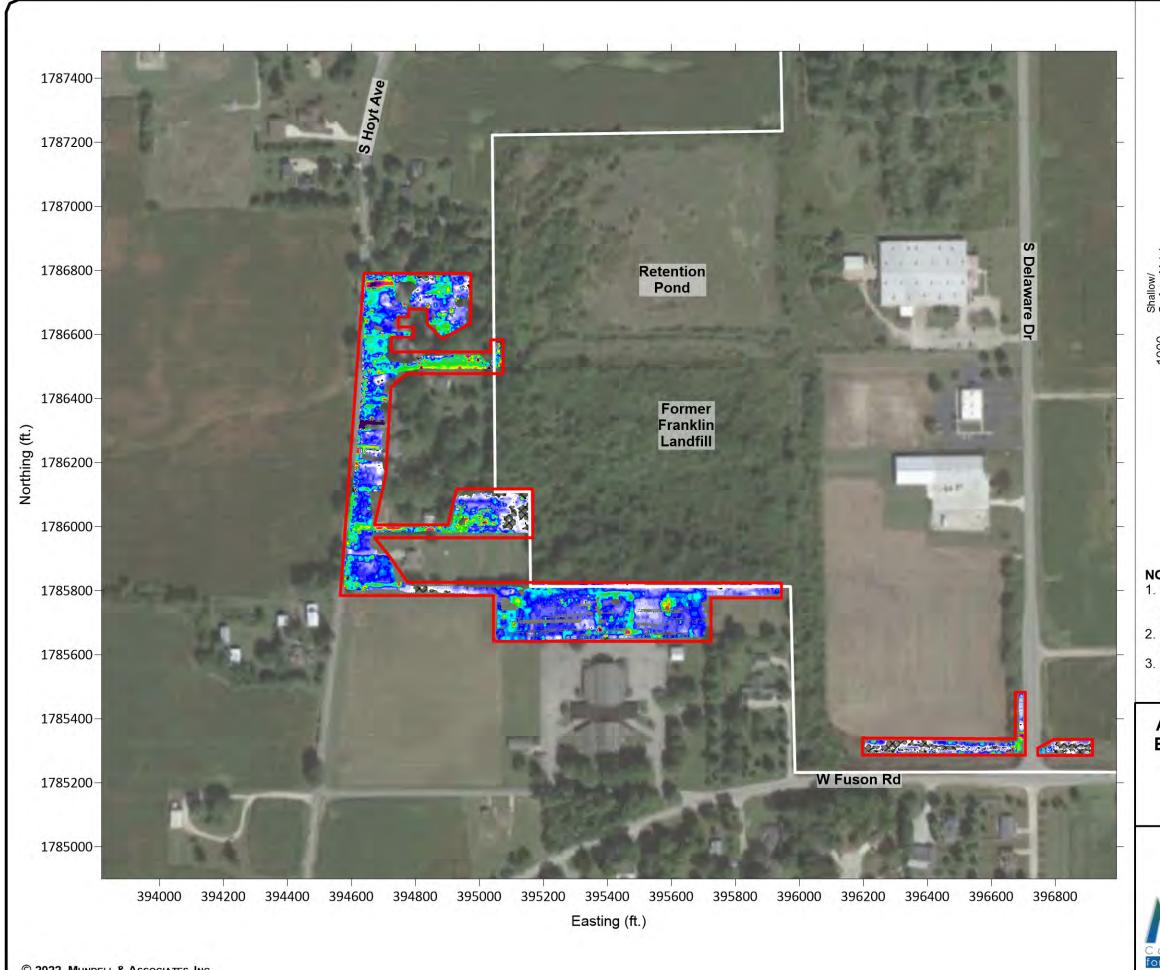
- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.
- 3. Approximate drainageway locations based on Elevation data courtesy of the 2012 Indiana Statewide LiDAR acquisition program along with data derived from the local-resolution National Hydrography Dataset current as of April 26, 2019, courtesy of https://maps.indiana.edu/.

### **Southwest Drainage Basin Surficial Soil**

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032

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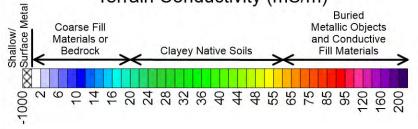




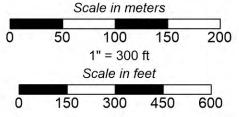


Survey Area

### Terrain Conductivity (mS/m)







### NOTES:

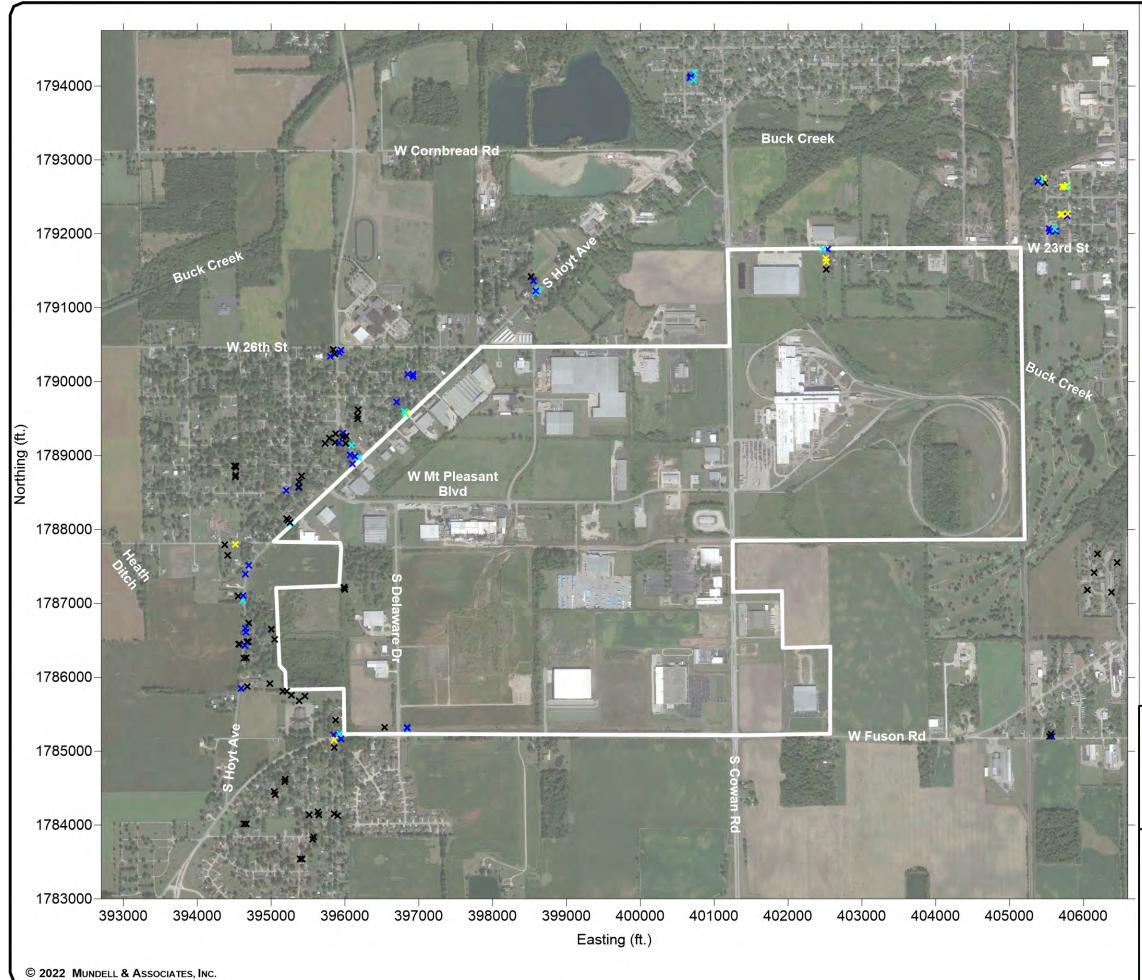
- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.
- 3. Conductivity data collected 10/20/2021 with a CMD Mini Explorer multi-depth meter. Data gridded with 0.5-meter grid spacing and using a kriging algorithm with a search radius of 3 meters.

## **Apparent Terrain Conductivity Map** Effective Depth 0.8 ft (Surficial Soil)

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032

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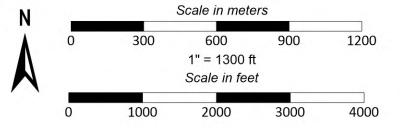
South Muncie Industria Center



XRF Sampling Location (12/2021)

# XRF Soil Lead Results

<u>mg/</u>	kg	Count	<u>%</u>	<u>Description</u>
<= 28	7	73	53	Less than Background Rural Indiana (includes "Non-Detect")
<= 62.	5	36	26	Less than Background Urban Indiana (Indianapolis/Terre Haute)
<= 92		17	12	Less than Average XRF Results to Northeast of Industria Center
<= 270	0	12	9	<u>Less than</u> 2022 IDEM Residential Migration to Groundwater
<= 400	)	0	0	Less than 2022 IDEM Residential Direct Contact
<= 800	)	0	0	Less than 2022 IDEM Industrial Direct Contact
>= 80	0	0	0	Greater than 2022 IDEM Industrial Direct Contact
				Industrial Direct Contact  Greater than 2022 IDEM



### NOTES:

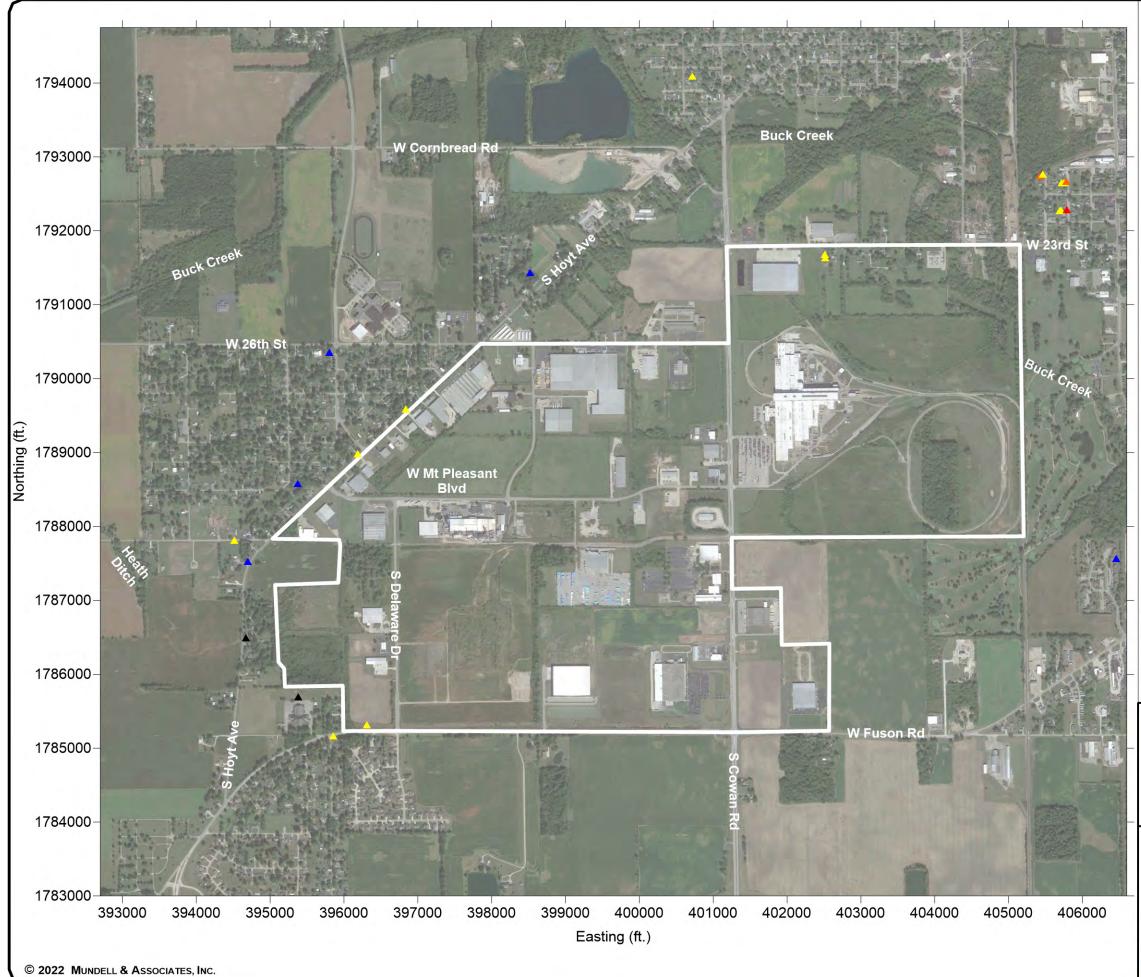
- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.

  2. Coordinates are referenced according to Indiana East (Feet)
- State Plane 1983 Datum.

## **XRF Soil Screening**

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032







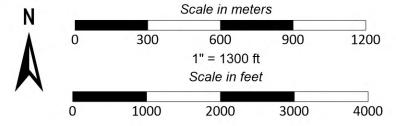
South Muncie Industria Center



Confirmatory Surficial Soil Sampling (1/2022 and A49S included in Southwest Drainage Basin Review)

# **Laboratory Soil Lead Results**

mg/kg	<u>Description</u>
<= 28.7	Less than Background Rural Indiana (includes "Non-Detect")
<= 62.5	<u>Less than</u> Background Urban Indiana (Indianapolis/Terre Haute)
<= 92	Less than Average XRF Results to Northeast of Industria Center
<= 270	<u>Less than</u> 2022 IDEM Residential Migration to Groundwater
<= 400	Less than 2022 IDEM Residential Direct Contact
<= 800	Less than 2022 IDEM Industrial Direct Contact
>= 800	Greater than 2022 IDEM Industrial Direct Contact



### NOTES:

- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.

# Confirmatory Surficial Soil Sampling

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032 6



Figure 7 Lead XRF vs. Lab Results

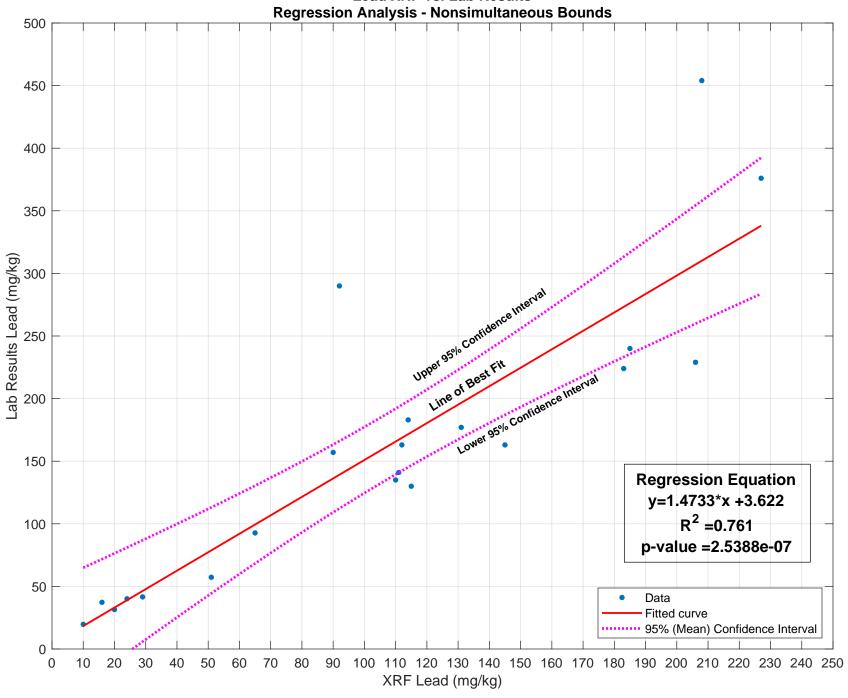
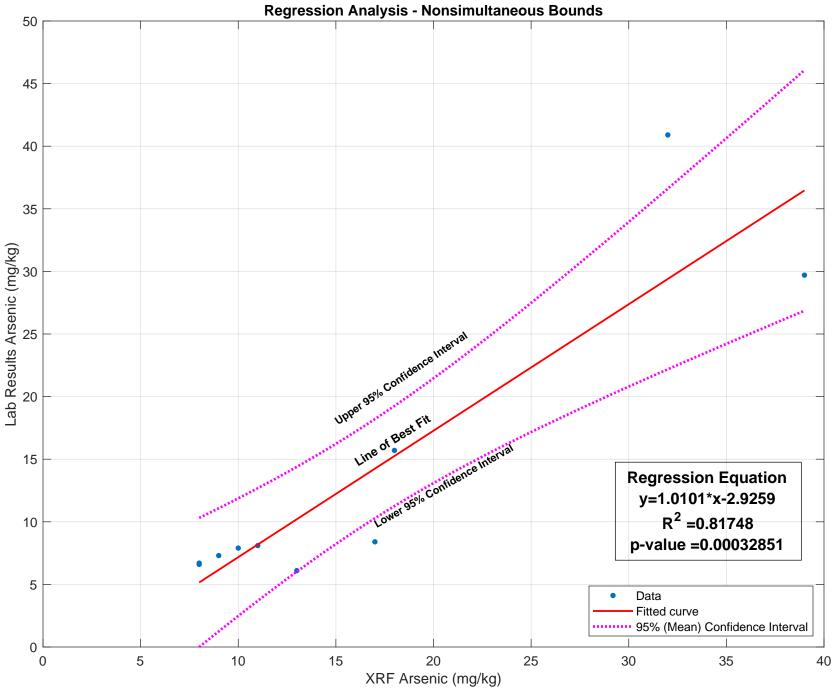
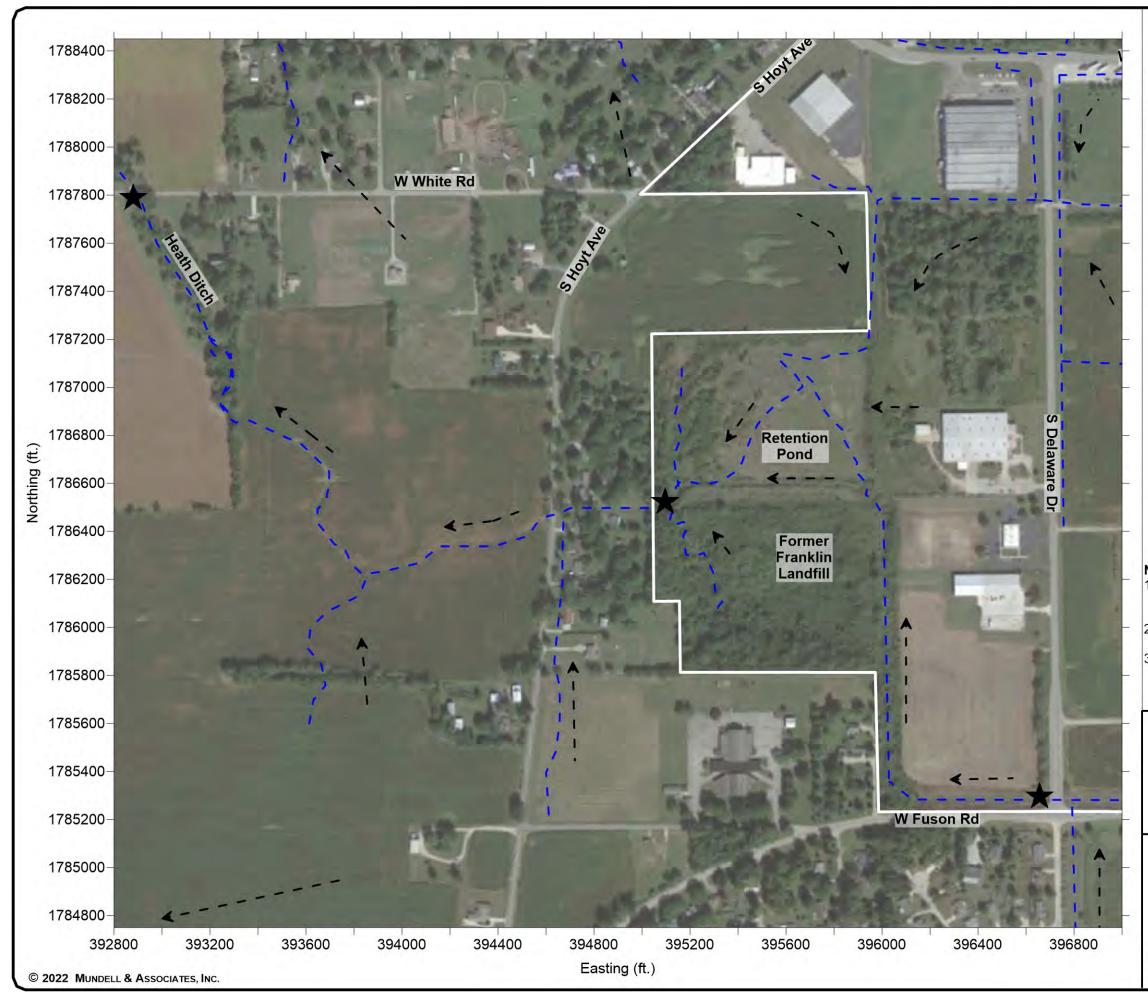


Figure 8
Arsenic XRF vs. Lab Results





South Muncie Industria Center



Surface Water Sampling Location (1/2022)

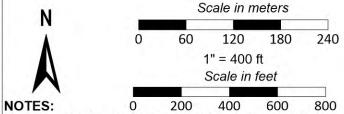
Surface Water Flow Direction (General)

Direction (General)
Surface Water

Drainageways

Laboratory Lead Results

	ug/L	<u>Description</u>
*	<10.0	Less than Laboratory Detection Limit ("Non-Detect")
*	<15.0	Less than 2022 IDEM Residential Groundwater Tap Screening Level
*	>=15.0	Greater than 2022 IDEM Residential Groundwater Tap Screening Level



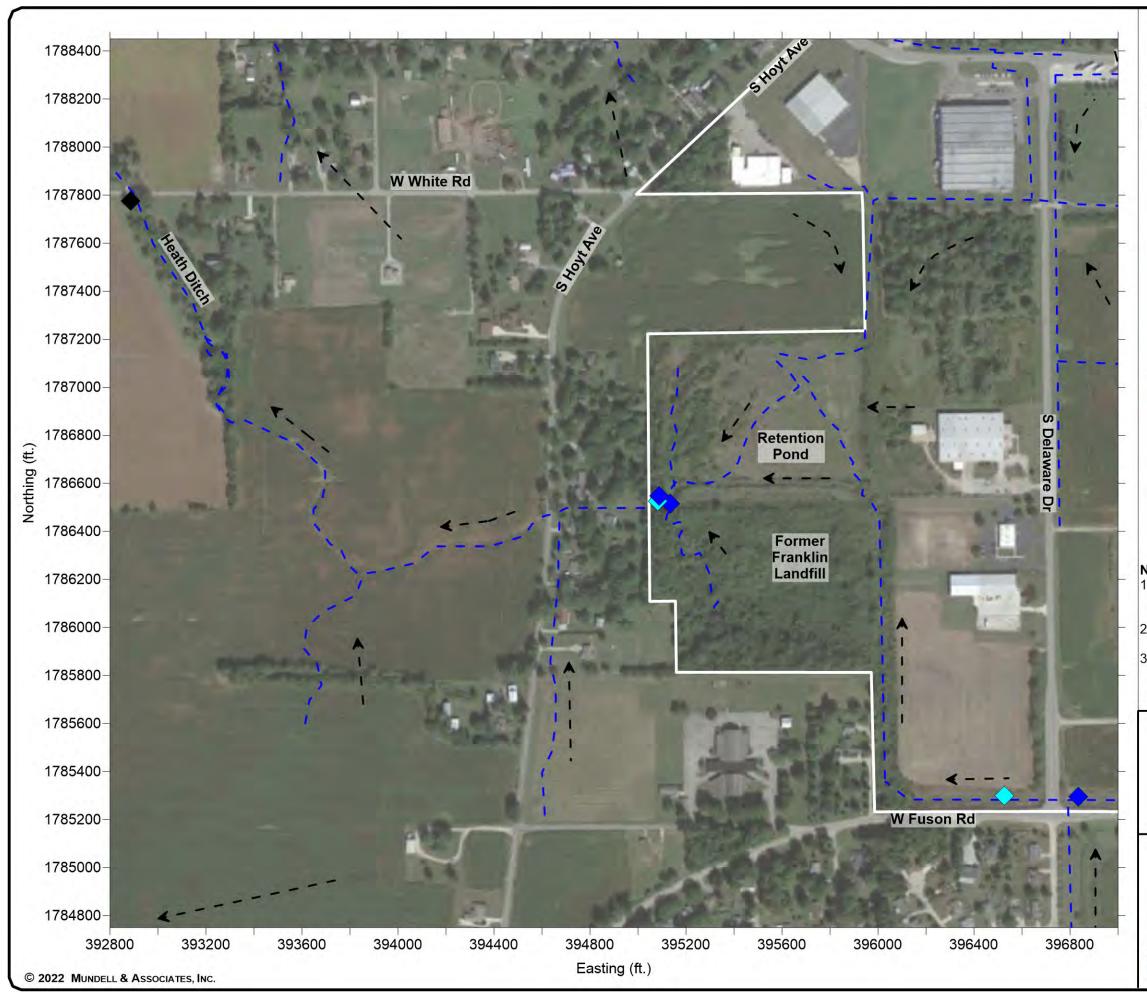
- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.
- Approximate drainageway locations based on Elevation data courtesy of the 2012 Indiana Statewide LiDAR acquisition program along with data derived from the local-resolution National Hydrography Dataset current as of April 26, 2019, courtesy of https://maps.indiana.edu/.

# Southwest Drainage Basin Surface Water Sampling

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032

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South Muncie Industria Center



Sediment Sampling Location (1/2022)

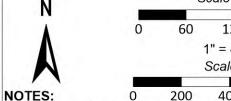
\_ \_ Surfac

Surface Water Flow Direction (General)

Surface Water
Drainageways

# **Laboratory Lead Results**

mg/kg	<u>Description</u>
<= 28.7	Less than Background Rural Indiana (includes "Non-Detect")
<= 62.5	Less than Background Urban Indiana (Indianapolis/Terre Haute)
<= 92	<u>Less than</u> Average XRF Results to Northeast of Industria Center
<= 270	<u>Less than</u> 2022 IDEM Residential Migration to Groundwater
<= 400	<u>Less than 2022 IDEM</u> Residential Direct Contact
<= 800	<u>Less than</u> 2022 IDEM Industrial Direct Contact
>= 800	Great than 2022 IDEM Industrial Direct Contact
ŇĬ.	Scale in meters
IN	



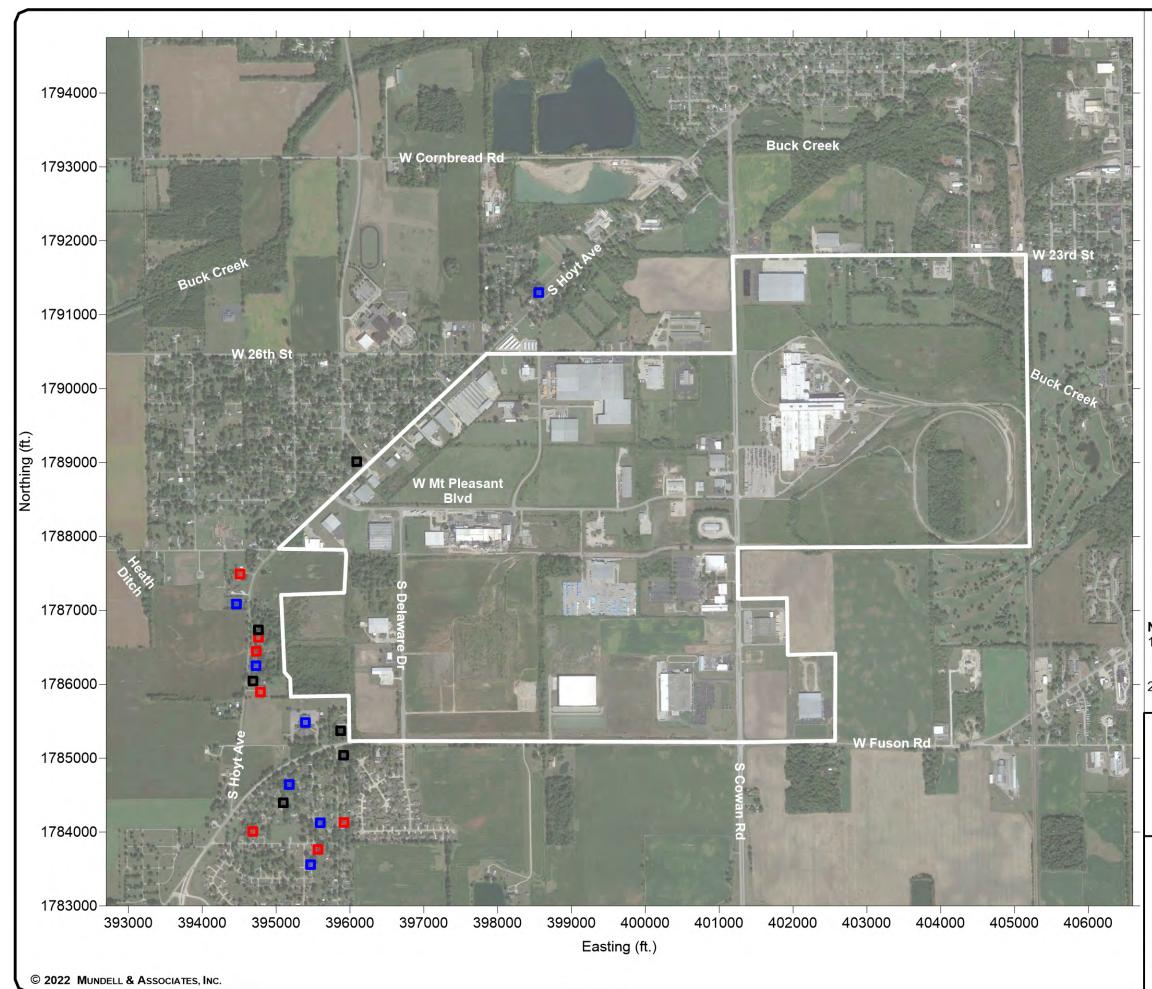
0 60 120 180 240 1" = 400 ft Scale in feet 0 200 400 600 800

- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.
- Approximate drainageway locations based on Elevation data courtesy of the 2012 Indiana Statewide LiDAR acquisition program along with data derived from the local-resolution National Hydrography Dataset current as of April 26, 2019, courtesy of https://maps.indiana.edu/.

# Southwest Drainage Basin Sediment Sampling

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032 10







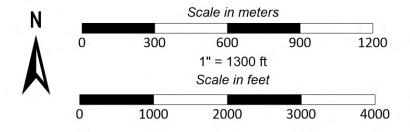
South Muncie Industria Center



Private Well Groundwater Sampling Location

# **Laboratory Lead Results**

<u>ug/L</u>	<u>Description</u>	
<1.0	<u>Less than</u> Laboratory Detection Limit ("Non-Detect")	
<15.0	<u>Less than</u> 2022 IDEM Residential Groundwater Tap Screening Level	
>=15.0	Greater than 2022 IDEM Residential Groundwater Tap Screening Level	



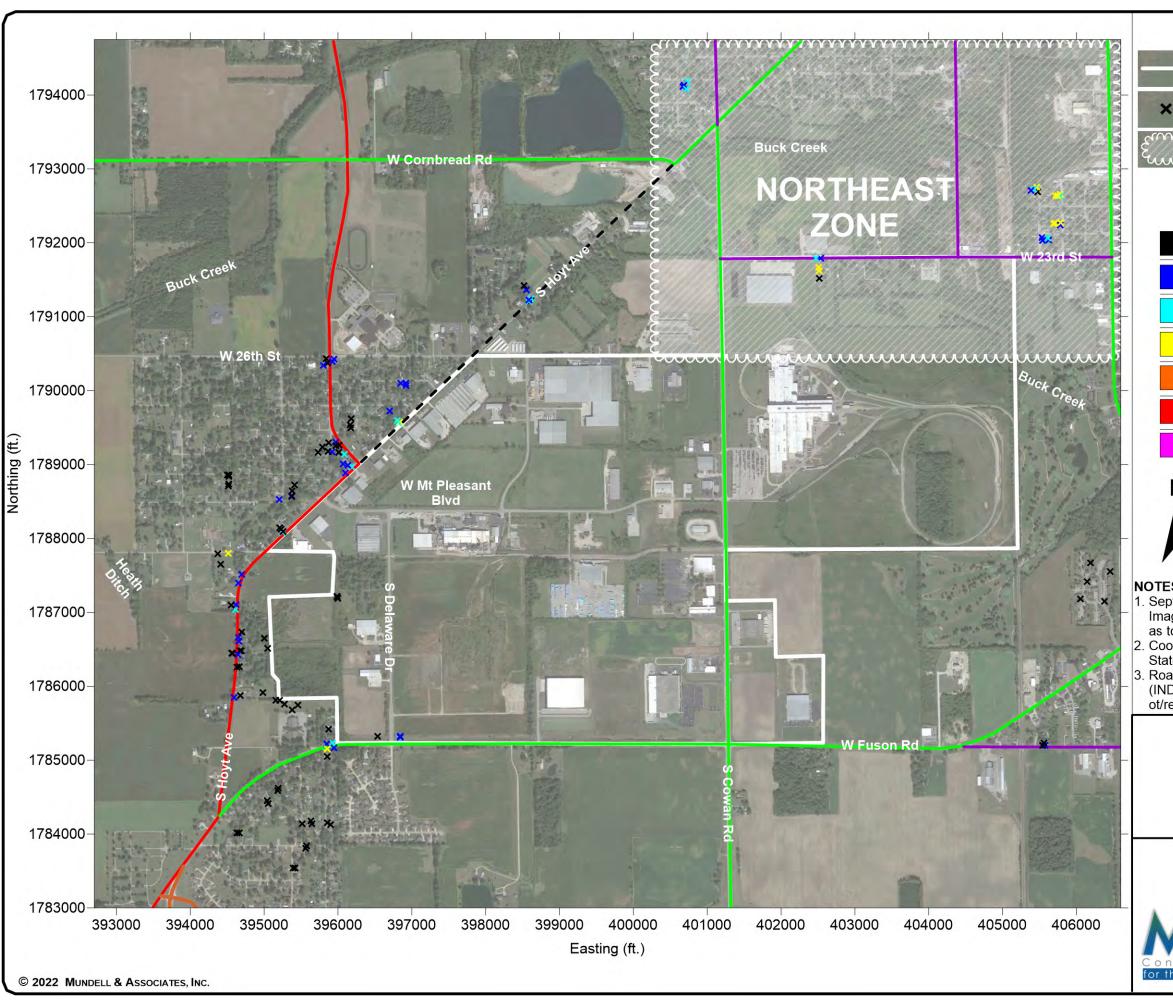
### NOTES:

- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet)
  State Plane 1983 Datum.

# Private Well Groundwater Sampling

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032 11





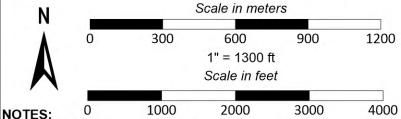
#### **LEGEND** South Muncie Principal Arterial - Other Industria Center Minor Arterial XRF Sampling Locations (12/2021) **Major Collector** MUNDELL Considered Major Road Northeast of Based on Industrial Locations Industria Center

## **XRF Soil Lead Results**

and Assumed Traffic Flow

(INDOT Classified as Local Road)

mg/kg	Count	<u>%</u>	<u>Description</u>
<= 28.7	73	53	Less than Background Rural Indiana (includes "Non-Detect")
<= 62.5	36	26	Less than Background Urban Indiana (Indianapolis/Terre Haute)
<= 92	17	12	Less than Average XRF Results to Northeast of Industria Center
<= 270	12	9	<u>Less than</u> 2022 IDEM Residential Migration to Groundwater
<= 400	0	0	Less than 2022 IDEM Residential Direct Contact
<= 800	0	0	Less than 2022 IDEM Industrial Direct Contact
>= 800	0	0	Above the 2022 IDEM Industrial Direct Contact



- 1. September 2019 aerial photograph courtesy of Google Earth Imagery and is provided for reference only. No claim is made as to the accuracy or completeness of this information.
- 2. Coordinates are referenced according to Indiana East (Feet) State Plane 1983 Datum.
- 3. Roadway classification per the Indiana Department of Transportation (INDOT) Roadway Functional Class Viewer and https://www.in.gov/ind ot/resources/maps/functional-classification-and-urban-area-boundary/

## Comparison XRF Directional & Roadway

South Muncie Industria Center Phase II Investigation Muncie, Delaware County, IN MUNDELL Project No. M20032

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## **TABLES**

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Table 2.	Surficial Soil XRF Screening December 2021
Table 3.	Surficial Soil Confirmatory Analytical Results January 2022
Table 4.	Surface Water Analytical Results January 2022
Table 5.	Sediment Analytical Results January 2022
Table 6.	Private Well Groundwater Analytical Results April 2022
Table 7.	Surficial Soil Sampling Overall Summary
Table 8a.	Surficial Soil Sampling Lead Summary – Directional/Roadway
Table 8b.	Surficial Soil Sampling Lead Summary - Southwest Drainage Basin



# Table 1 Surficial Soil Analytical Results October 2021

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

			Chemical Constituent Concentration										
Property Address	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Lithium	Selenium	Silver	Mercury		
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
4408 S Hoyt Ave	A1	10/20/2021	2.7	68.5	<0.62	11.9	23.8	7.6	<1.2	< 0.62	<0.26		
	A2	10/20/2021	3.7	76.6	< 0.63	15.5	46.1	9.4	<1.3	< 0.63	<0.26		
4300/4400 S Hoyt Ave	A3	10/20/2021	3.6	75.7	<0.61	14.9	38.6	9.6	<1.2	<0.61	<0.27		
4300/4400 S Hoyl Ave	A4	10/20/2021	4.2	125	< 0.59	15.5	27.7	10.3	<1.2	< 0.59	<0.26		
	A5	10/20/2021	8.8	110	<0.52	15.9	17.0	11.0	<1.0	< 0.52	<0.24		
4500 S Hoyt Ave	A6	10/20/2021	4.2	53.4	<0.61	11.5	41.4	10.2	<1.2	<0.61	<0.26		
	A7	10/20/2021	4.2	94.9	<0.62	15.4	16.4	10	<1.2	< 0.62	<0.27		
4512 S Hoyt Ave	A8	10/20/2021	5.0	72.9	<0.57	16.5	76.1	9.3	<1.1	< 0.57	<0.27		
4200/4400 Plk C Hoyd Avo	A9	10/20/2021	4.8	114	<0.78	16.3	217	15.3	<1.6	<0.78	< 0.35		
4300/4400 Blk S Hoyt Ave	A10	10/20/2021	5.0	84.9	<0.58	15.0	24.6	10.6	<1.2	<0.58	< 0.25		
3500 W Fuson Rd	A11	10/20/2021	5.2	163	< 0.55	17.8	21.3	11.9	<1.1	< 0.55	<0.26		
	A12	10/20/2021	8.8	202	<0.94	20.5	310	17.4	<1.9	< 0.94	< 0.43		
4849 Blk S Delaware Dr	A12 (DUP)	10/20/2021	8.0	207	< 0.97	22.0	281	18.3	<1.9	< 0.97	< 0.47		
	A13	10/20/2021	7.5	63.4	< 0.59	11.9	32.9	14.8	<1.2	< 0.59	<0.24		
2022 IDEM Res	idential MTG (mg	g/kg)	5.9	1,700	7.5	1,000,000	270	240	5.3	16	2.1		
2022 IDEM Resident	ial Direct Contac	t (mg/kg)	9.5	21,000	9.9		400	220	550	550	3.1		
2022 IDEM Industria	al Direct Contact	(mg/kg)	30	100,000	100		800	2,300	5,800	5,800	3.1		

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) < = compound not detected at a concentration above the reporting limit.
- 3) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 4) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 5) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 6) Concentrations in **Bold** & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 7) Concentrations in **Bold** & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 8) Testing performed according to U.S. EPA Method 6010 (Heavy Metals) and Method 7471 (Mercury).

	XRF Sample ID										
Property Address		Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	E1	12/2/21 8:02	ND	53	ND	ND	ND	10	ND	ND	
	E2	12/2/21 8:09	ND	40	ND	ND	ND	ND	ND	ND	
3701 W 31st St	E3	12/2/21 8:14	ND	43	ND	ND	ND	ND	ND	ND	
	E4	12/2/21 8:22	ND	56	ND	ND	ND	18	ND	ND	
	E5	12/2/21 8:28	14	173	ND	ND	13	ND	ND	ND	
	E6	12/2/21 8:43	ND	27	ND	ND	90	17	ND	ND	
	E7	12/2/21 8:49	ND	213	ND	ND	75	ND	ND	ND	
4001 S Hoyt Ave	E8	12/2/21 8:54	ND	35	ND	ND	ND	19	ND	ND	
	E9	12/2/21 9:00	ND	50	ND	ND	20	ND	ND	ND	
	E10	12/2/21 9:07	ND	48	ND	ND	ND	14	ND	ND	
	E11	12/2/21 10:03	ND	21	ND	ND	36	ND	ND	ND	
	E11 (DUP2)	12/2/21 10:09	ND	73	ND	ND	48	ND	ND	ND	
	E11 (DUP3)	12/2/21 10:12	ND	76	ND	ND	51	ND	ND	ND	
	E11 (DUP4)	12/2/21 10:15	ND	81	ND	ND	43	ND	ND	ND	
3421 W Armitage Dr	E11 (DUP5)	12/2/21 10:18	ND	70	ND	ND	44	ND	ND	ND	
	E11 (DUP6)	12/2/21 10:23	ND	76	ND	ND	28	ND	ND	ND	
	E11 (DUP7)	12/2/21 10:25	ND	82	ND	ND	53	ND	ND	ND	
	E12	12/2/21 10:33	10	210	ND	ND	24	ND	ND	ND	
	E13	12/2/21 10:39	ND	36	ND	ND	30	ND	ND	ND	
	E14	12/2/21 10:46	ND	34	ND	ND	ND	ND	ND	ND	
3418 W Armitage Dr	E14 (DUP8)	12/2/21 10:50	ND	88	ND	ND	20	ND	ND	ND	
	E15	12/2/21 11:00	ND	77	ND	ND	21	ND	ND	ND	
	E16	12/2/21 12:02	ND	51	ND	ND	48	ND	ND	ND	
	E17	12/2/21 12:08	13	158	ND	ND	65	ND	ND	ND	
3701 S Hoyt Ave	E18	12/2/21 12:12	ND	33	ND	ND	48	ND	ND	ND	
	E19	12/2/21 12:23	ND	41	ND	ND	30	ND	ND	ND	
	E20	12/2/21 12:30	ND	39	ND	ND	78	ND	ND	ND	
	E21	12/2/21 12:44	ND	59	ND	ND	43	ND	ND	ND	
	E22	12/2/21 12:51	ND	34	ND	ND	ND	ND	ND	ND	
3620 S Park Ave	E23	12/2/21 12:57	ND	62	ND	ND	22	ND	ND	ND	
	E24	12/2/21 13:04	ND	58	ND	ND	23	11	ND	ND	
	E25	12/2/21 13:11	ND	79	ND	ND	33	ND	ND	ND	
	E26	12/2/21 13:25	ND	52	ND	ND	ND	ND	ND	ND	Measurement time: 41.8 sec
2200 M 20th Ct	E27	12/2/21 13:32	ND	112	ND	ND	26	7	ND	ND	
3308 W 30th St	E28	12/2/21 13:42	ND	124	ND	ND	21	7	ND	ND	
	E29	12/2/21 13:49	ND	83	ND	ND	17	ND	ND	ND	

					Che	emical Constitu	ent Concentra	ation			
Property Address	XRF Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	E30	12/2/21 14:07	ND	115	ND	ND	17	5	ND	ND	
3200 W 29th St	E31	12/2/21 14:13	ND	78	ND	ND	23	ND	ND	ND	
	E32	12/2/21 14:19	6	280	ND	ND	21	ND	ND	ND	
	E33	12/2/21 14:35	ND	80	ND	ND	90	ND	ND	ND	
	E34	12/2/21 14:40	ND	71	ND	ND	206	ND	ND	ND	
3509 S Hoyt Ave	E35	12/2/21 14:47	ND	170	ND	ND	30	ND	ND	ND	
	E36	12/2/21 14:53	ND	75	ND	ND	74	ND	ND	ND	
	E36 (DUP9)	12/2/21 14:57	ND	123	ND	ND	61	5	ND	ND	
	E37	12/2/21 15:18	ND	66	ND	ND	21	ND	ND	ND	
3301 W 26th St	E38	12/2/21 15:24	ND	120	ND	ND	22	ND	ND	ND	
	E41	12/2/21 15:43	ND	142	ND	ND	51	ND	ND	ND	
3223 W 26th St	E39	12/2/21 15:31	ND	94	ND	ND	31	ND	ND	ND	
3223 W 26111 St	E40	12/2/21 15:38	ND	101	ND	ND	31	ND	ND	ND	
	E42	12/2/21 15:56	ND	131	ND	ND	50	ND	ND	ND	
3001 W 27th St	E43	12/2/21 16:01	ND	69	ND	ND	29	ND	ND	ND	
	E44	12/2/21 16:07	ND	60	ND	ND	31	ND	ND	ND	
	E45	12/3/21 7:47	ND	36	ND	ND	89	ND	ND	ND	
	E46	12/3/21 7:55	ND	164	ND	ND	65	ND	ND	ND	
	E47	12/3/21 8:06	ND	116	ND	ND	40	ND	ND	ND	Analyzed at 2-3 inch depth
3109 S Hoyt Ave	E47S	12/3/21 8:10	ND	49	ND	ND	28	ND	ND	ND	Analyzed at 1-2 inch depth. Used for sensitivity instrument evaluation, but not in overall evaluation.
	E48	12/3/21 8:17	ND	38	ND	ND	31	ND	ND	ND	
	E49	12/3/21 8:23	8	165	ND	ND	16	ND	ND	ND	
	E50	12/3/21 8:37	ND	115	ND	ND	67	ND	ND	ND	
ANON1 W 17th St	E51	12/3/21 8:43	ND	144	ND	ND	38	ND	ND	ND	Analyzed exposed surface, no vegetation present (no excavation
	E52	12/3/21 8:47	ND	108	ND	ND	52	ND	ND	ND	
	E53	12/3/21 8:53	ND	53	ND	ND	90	ND	ND	ND	

Property Address	XRF Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	E54	12/3/21 9:21	ND	57	ND	ND	59	ND	3	ND	
	E55	12/3/21 9:28	ND	70	ND	ND	90	ND	ND	ND	
	E56	12/3/21 9:35	ND	112	ND	ND	114	ND	3	ND	
	E56 DUP10	12/3/21 9:39	ND	80	ND	ND	123	ND	ND	ND	
	E56 DUP11	12/3/21 9:41	ND	83	ND	ND	128	ND	4	ND	
1213 W 23rd St	E56 DUP12	12/3/21 9:44	ND	86	ND	ND	116	ND	ND	ND	
	E56 DUP13	12/3/21 9:46	ND	99	ND	ND	127	ND	ND	ND	
	E56 DUP14	12/3/21 9:50	ND	158	ND	ND	131	ND	ND	ND	
	E56 DUP15	12/3/21 9:52	15	161	ND	ND	140	ND	ND	ND	
	E57	12/3/21 10:00	ND	172	ND	ND	115	ND	ND	ND	
	E58	12/3/21 10:06	ND	162	ND	ND	24	ND	ND	ND	
	E59	12/3/21 10:21	ND	58	ND	ND	36	10	ND	ND	
0000 0 1 "	E60	12/3/21 10:27	ND	156	ND	ND	55	ND	ND	ND	
2900 S Liberty St	E61	12/3/21 10:33	ND	85	ND	ND	41	ND	ND	ND	
	E62	12/3/21 10:39	ND	256	ND	ND	73	ND	ND	ND	
	E63	12/3/21 10:50	ND	146	ND	ND	61	5	ND	ND	
0045.0.5	E64	12/3/21 10:56	ND	59	ND	ND	208	ND	ND	ND	
2815 S Franklin St	E65	12/3/21 11:03	ND	128	ND	ND	131	ND	ND	ND	
	E66	12/3/21 11:08	ND	105	ND	ND	183	ND	3	ND	
	E67	12/3/21 11:24	39	86	ND	ND	227	ND	ND	ND	
0740 C Franklin Ot	E68	12/3/21 11:32	ND	57	ND	ND	88	ND	ND	ND	
2719 S Franklin St	E69	12/3/21 11:38	ND	62	ND	ND	110	ND	ND	ND	
	E70	12/3/21 11:42	32	199	ND	ND	145	ND	ND	ND	
	E71	12/3/21 12:27	ND	64	ND	ND	27	ND	ND	ND	
2707 S Liberty St	E72S	12/3/21 12:34	ND	210	ND	ND	85	ND	ND	ND	Equipment blank. Analyzed exposed surface, no vegetation present (no excavation).
c. cc., c.	E72	12/3/21 12:39	ND	167	ND	ND	111	ND	ND	ND	Same location as E72S, excavated to typical depth
	E73	12/3/21 12:44	18	59	ND	ND	92	ND	ND	ND	
	E74	12/3/21 12:49	ND	83	ND	ND	52	ND	ND	ND	
	E75	12/3/21 13:13	ND	70	ND	ND	16	ND	ND	ND	
	E76	12/3/21 13:20	ND	248	ND	ND	14	ND	7	ND	
4117 S Madison St	E77	12/3/21 13:50	11	132	ND	ND	20	ND	ND	ND	
	E78	12/3/21 13:57	ND	67	ND	ND	ND	ND	ND	ND	
	E79	12/3/21 14:04	ND	61	ND	ND	ND	ND	ND	ND	

Property Address	XRF Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	7
	E80	12/3/21 14:22	ND	185	ND	ND	40	ND	ND	ND	
400 W Eugen Dd	E80 (DUP16)	12/3/21 14:26	ND	127	ND	ND	37	ND	ND	ND	
400 W Fuson Rd	E81	12/3/21 14:30	ND	99	ND	ND	28	ND	ND	ND	
	E82	12/3/21 14:35	ND	83	ND	ND	23	ND	ND	ND	
ortheast of S Delaware	A14X	12/3/21 15:00	ND	47	ND	ND	80	ND	ND	ND	
and Fuson Intersection	A15X	12/3/21 15:06	ND	137	ND	ND	59	ND	ND	ND	
(Ditch)	A16	12/3/21 15:11	ND	55	ND	ND	30	8	ND	ND	
4849 Blk S Delaware Dr	A17	12/3/21 15:21	ND	44	ND	ND	19	ND	ND	ND	
	A18	12/3/21 15:49	ND	46	ND	ND	ND	ND	ND	ND	
400 Blk S Delaware Dr	A19	12/3/21 15:53	ND	33	ND	ND	ND	ND	ND	ND	1
	A20	12/3/21 15:58	ND	44	ND	ND	ND	ND	ND	ND	
-	A21	12/6/21 7:44	ND	77	ND	ND	ND	ND	ND	ND	
	A22	12/6/21 7:50	9	162	ND	ND	10	ND	ND	ND	
3500 W Fuson Rd	A23sur	12/6/21 8:01	ND	111	ND	ND	10	ND	ND	ND	Analyzed exposed surface, no vegetation present (no excavation)
	A24	12/6/21 8:07	ND	116	ND	ND	ND	ND	ND	ND	
	A25	12/6/21 8:14	ND	88	ND	ND	11	ND	ND	ND	
	E83	12/6/21 8:31	ND	72	ND	ND	46	ND	ND	ND	
	E84	12/6/21 8:37	8	144	ND	ND	29	ND	ND	ND	
4201 S Hoyt Ave	E85	12/6/21 8:44	ND	57	ND	ND	ND	ND	ND	ND	
	E86	12/6/21 8:48	ND	109	ND	ND	185	ND	ND	ND	
	E87	12/6/21 8:54	ND	32	ND	ND	ND	ND	ND	ND	
	E88	12/6/21 9:07	ND	52	ND	ND	84	ND	ND	ND	
4301 S Hoyt Ave	E89	12/6/21 9:11	ND	73	ND	ND	58	ND	ND	ND	
	E90	12/6/21 9:16	ND	48	ND	ND	24	ND	ND	ND	
4400 S Hoyt Ave	A26	12/6/21 9:34	ND	48	ND	ND	22	9	ND	ND	
-	A27	12/6/21 9:39	ND	40	ND	ND	30	ND	ND	ND	
4408 S Hoyt Ave	A28	12/6/21 9:43	6	230	38	ND	32	3	ND	ND	
	A29	12/6/21 9:56	ND	151	ND	ND	18	ND	ND	ND	

Property Address	XRF Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	A30	12/6/21 10:19	17	34	ND	ND	ND	12	ND	ND	
	A31	12/6/21 10:21	11	93	ND	ND	ND	ND	ND	ND	
	A32	12/6/21 10:23	ND	52	ND	ND	40	ND	ND	ND	
	A32 (DUP1)	12/6/21 10:26	ND	44	ND	ND	37	8	ND	ND	
4500 S Hoyt Ave	A32 (DUP2)	12/6/21 10:27	ND	61	ND	ND	43	ND	ND	ND	
	A32 (DUP3)	12/6/21 10:28	ND	38	ND	ND	27	ND	ND	ND	
	A32 (DUP4)	12/6/21 10:29	19	50	ND	ND	25	9	ND	ND	
	A32 (DUP5)	12/6/21 10:31	ND	63	ND	ND	37	ND	ND	ND	
	A32 (DUP6)	12/6/21 10:33	ND	63	ND	ND	35	6	ND	ND	
4300/4400 Blk S Hoyt Ave	A35	12/6/21 10:57	ND	63	ND	ND	ND	ND	ND	ND	
4300 BLK S Hoyt Ave	A33	12/6/21 10:36	ND	50	ND	ND	ND	ND	ND	ND	Moist soil
(West of S Hoyt Ave)	A34SUR	12/6/21 10:38	ND	259	ND	ND	ND	ND	ND	ND	Analyzed exposed surface, no vegetation present (no excavation) Moist soil.
	A36	12/6/21 11:05	ND	26	ND	ND	21	ND	ND	ND	
4512 S Hoyt Ave	A37	12/6/21 11:08	ND	75	ND	ND	ND	ND	ND	ND	
4612 S Hoyt Ave	A38SUR	12/6/21 12:33	ND	218	ND	ND	27	ND	ND	ND	Equipment blank. Analyzed exposed surface, no vegetation present (no excavation).
+012 0 1 loyt 7 WC	A38	12/6/21 12:36	ND	85	ND	ND	30	ND	ND	ND	
	A39	12/6/21 12:41	ND	166	ND	ND	14	ND	ND	ND	
	A40	12/6/21 12:53	10	273	ND	ND	15	ND	ND	ND	
	A41	12/6/21 13:05	ND	44	ND	ND	84	ND	ND	ND	
3300 W Fuson Rd	A42	12/6/21 13:12	ND	92	ND	ND	44	ND	ND	ND	
	A43	12/6/21 13:19	ND	59	ND	ND	ND	ND	ND	ND	
	A44	12/6/21 13:29	ND	34	ND	ND	112	ND	ND	ND	
4900 S Edgewood Dr	A45	12/6/21 13:34	ND	27	ND	ND	33	ND	ND	ND	
-	A46	12/6/21 13:41	ND	47	ND	ND	ND	ND	ND	ND	
5000 O E 4	E91	12/6/21 13:55	ND	41	ND	ND	ND	ND	ND	ND	
5200 S Edgewood Dr	E92	12/6/21 14:00	ND	53	ND	ND	15	ND	ND	ND	

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

Property Address	XRF Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Notes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	E93	12/6/21 14:10	ND	33	ND	ND	ND	ND	ND	ND	
ANON2	E94	12/6/21 14:13	ND	56	ND	ND	19	6	ND	ND	
(Southwest of Industria	E94 (Dup)	12/6/21 14:16	ND	30	ND	ND	30	ND	ND	ND	
Center)	E95SUR	12/6/21 14:18	ND	136	ND	ND	13	ND	ND	ND	Analyzed exposed surface, no vegetation present (no excavation)
ANON3	E96	12/6/21 14:31	ND	66	ND	ND	ND	ND	ND	ND	
S Eldorado Ln	E97	12/6/21 14:36	ND	109	ND	ND	ND	ND	ND	ND	
	E98	12/6/21 14:47	10	83	ND	ND	14	7	ND	ND	
2400 M. Fleetwood Dr	E98 (Dup)	12/6/21 14:49	ND	72	ND	ND	ND	ND	ND	ND	
3408 W Fleetwood Dr	E98 (Dup 2)	12/6/21 14:51	ND	65	ND	ND	19	ND	ND	ND	
	E99	12/6/21 14:54	ND	100	ND	ND	23	8	ND	ND	
3605 W Fleetwood Dr	E100	12/6/21 15:04	ND	50	ND	ND	19	ND	ND	ND	
3003 W Fleetwood Di	E101	12/6/21 15:09	ND	104	ND	ND	ND	ND	ND	ND	
3305 W CR 325 S	E102	12/6/21 15:20	ND	35	ND	ND	ND	ND	ND	ND	
3303 W CR 323 3	E103	12/6/21 15:24	ND	39	ND	ND	ND	ND	ND	ND	
5304 S Breezewood Dr	E104	12/6/21 15:32	ND	86	ND	ND	24	ND	ND	ND	
E105 12/6/		12/6/21 15:36	ND	44	ND	ND	14	9	ND	ND	
2022 IDE	2022 IDEM Residential MTG (mg/kg)		5.9	1,700	7.5	1,000,000	270	5.3	16	2.1	
2022 IDEM Res	2022 IDEM Residential Direct Contact (mg/kg)		9.5	21,000	9.9		400	550	550	3.1	
2022 IDEM Inc	2022 IDEM Industrial Direct Contact (mg/kg)		30	100,000	100		800	5,800	5,800	3.1	

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) ND = "Non-Detect," constituent was not detected in the sample.
- 3) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 4) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 5) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 6) Concentrations in **Bold** & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 7) Concentrations in Bold & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 8) In situ soil screening performed using a field portable X-Ray Fluorescence (XRF) device via U.S. EPA SW-846 Test Method 6200 at 50 second intervals per sampling location unless otherwise noted.
- 9) "ANON" indicates addresses which have been "anonymized" at the request of the private property owner.

# Table 3 Surficial Soil Confirmatory Analytical Results January 2022

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

			Chemical Constituent Concentration											
Property Address	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Lithium	Selenium	Silver	Mercury			
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
3500 W Fuson Rd	A22-s	1/6/2022	7.3	90.8	< 0.63	16.2	19.7	9.8	<1.3	< 0.63	<0.26			
4500 S Hoyt Ave	A30S	1/7/2022	8.4	197	< 0.65	15.9	16.4	11.4	<1.3	< 0.65	<0.25			
4900 S Edgewood Dr	A44S	1/6/2022	7.9	69.6	<0.60	17.8	163	11.4	<1.2	<0.60	<0.26			
4849 Blk S Delaware Dr	A49S	1/6/2022	7.2	115	<0.83	18.5	116	15.4	<1.7	<0.83	< 0.33			
4649 BIK S Delaware Di	A49S (DUP)	1/6/2022	7.9	107	<0.71	18.3	111	15.7	<1.4	<0.71	< 0.33			
3421 W Armitage Dr	E12S	1/7/2022	7.9	88.5	<0.60	14.6	40.1	10.8	<1.2	<0.60	<0.28			
3701 S Hoyt Ave	E17S	1/7/2022	6.1	95.3	<0.60	26.4	92.7	11.6	<1.2	< 0.60	<0.29			
3509 S Hoyt Ave	E34S	1/7/2022	6.5	70.1	<0.60	17.5	229	9.9	<1.2	< 0.60	<0.28			
3301 W 26th St	E41S	1/7/2022	6.6	78.3	<0.59	13.8	57.3	8.3	<1.2	<0.59	<0.26			
3109 S Hoyt Ave	E49S	1/7/2022	6.7	80.4	<0.78	14.6	37.3	9.6	<1.6	<0.78	< 0.37			
ANON1 W 17th St	E53S	1/7/2022	7.7	164	2.0	18.8	157	10.1	<1.2	<0.62	<0.28			
4040 W 00-4 Ct	E56S	1/7/2022	9.8	387	1.2	20.9	183	15.0	<1.4	<0.68	<0.27			
1213 W 23rd St	E57S	1/7/2022	9.2	190	1.7	17.3	130	11.1	<1.3	mg/kg <0.63 <0.65 <0.60 <0.83 <0.71 <0.60 <0.60 <0.60 <0.60 <0.60 <0.79 <0.78	<0.27			
	E64S	1/7/2022	8.2	180	0.98	18.4	454	10.1	<1.1	<0.56	0.30			
2815 S Franklin St	E65S	1/7/2022	9.0	179	0.82	18.0	177	10.2	<1.4	<0.72	<0.31			
2015 S Flanklin St	E65S (DUP4)	1/7/2022	8.3	174	0.74	18.6	161	9.4	<1.3	<0.64	<0.24			
	E66S	1/7/2022	7.9	179	1.3	15.4	224	8.9	<1.1	<0.57	<0.25			
	E67S	1/7/2022	29.7	157	1.5	18.2	376	10	<1.2	<0.62	<0.29			
2719 S Franklin St	E69S	1/7/2022	23.3	171	1.1	16.9	135	8.4	<1.2	<0.62	0.32			
	E70S	1/7/2022	40.9	205	1.5	17.7	163	7.0	<1.2	<0.58	<0.27			
2707 S Liberty St	E72S	1/7/2022	7.6	111	1.3	19.2	141	10	<1.1	<0.56	<0.26			
2707 3 Liberty 3t	E73S	1/7/2022	15.7	104	0.84	18.4	290	8.1	<1.1	<0.54	<0.24			
4117 S Madison St	E77S	1/7/2022	8.1	66.2	<0.57	11.7	31.5	9.0	<1.1	<0.57	<0.24			
4201 S Hout Ava	E84S	1/7/2022	6.6	72.1	<0.55	13.7	41.6	9.4	<1.1	<0.55	<0.26			
4201 3 Hoyt Ave	4201 S Hoyt Ave E86S 1/7/2022			56.2	1.2	23.3	240	8.6	<1.1	<0.56	<0.26			
	Residential MTG (mg/k	•/	5.9	1,700	7.5	1,000,000	270	240	5.3	16	2.1			
2022 IDEM Resid	ential Direct Contact (	(mg/kg)	9.5	21,000	9.9		400	220	550	550	3.1			
2022 IDEM Indus	strial Direct Contact (r	mg/kg)	30	100,000	100		800	2,300	5,800	5,800	3.1			

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) <= compound not detected at a concentration above the reporting limit.
- 3) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 4) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 5) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 6) Concentrations in **Bold** & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 7) Concentrations in Bold & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 8) Testing performed according to U.S. EPA Method 6010 (Heavy Metals) and Method 7471 (Mercury).
- 9) "ANON" indicates addresses which have been "anonymized" at the request of the private property owner.

# Table 4 Surface Water Analytical Results January 2022

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

	Sample	Sample			C	hemical Co	nstitue	nt Conce	ntration			
<b>Property Address</b>	Sample	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Lithium	Selenium	Silver	Mercury	VOCs
	טו	Date	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
4849 BLK S Delaware Dr	SW-1	1/6/2022	<10.0	155	<2.0	<10.0	<10.0	<20.0	<10.0	<10.0	<2.0	ND
4300/4400 BLK S	SW-2	1/6/2022	<10.0	120	<2.0	<10.0	<10.0	<20.0	<10.0	<10.0	<2.0	ND
Hoyt Ave	SW-2 (DUP3)	1/6/2022	<10.0	116	<2.0	<10.0	<10.0	<20.0	<10.0	<10.0	<2.0	ND
Heath Ditch	SW-3	1/6/2022	<10.0	144	<2.0	<10.0	<10.0	<20.0	<10.0	<10.0	<2.0	ND
U.S. EPA Drinking MCL	। Water Se (ug/L)	econdary	ary 100				-					
U.S. EPA Drinking Water Primary MCL or Treatment Technique (ug/L)			10	2,000	5	100	15	-	50	1	2	
2022 IDEM RO Groundwater Tap	10	2,000	5	100	15	40	50	94	2			

- 1) ug/L = micrograms per liter (parts per billion).
- 2) < = compound not detected at a concentration above the reporting limit.
- 3) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 4) ND = Not Detected at a concentration above the reporting limit.
- 5) VOC = Volatile Organic Compounds.
- 6) Concentrations in **Bold** are reported in exceedance of the associated United States Environmental Protection Agency (U.S. EPA) Drinking Water Secondary Maximum Contaminant Level (MCL).
- 7) Concentrations in **Bold** & Orange exceed U.S. EPA Drinking Water Primary Maximum Contaminant Level (MCL) or Treatment Technique (TT).
- 8) Concentrations in **Bold** & Purple exceed IDEM Remediation Closure Guide (RCG) Residential Groundwater Tap screening levels.
- 9) Testing performed according to U.S. EPA Method 6010 (Heavy Metals), Method 7470 (Mercury), and Method 5030/8260 (VOCs).

# Table 5 Sediment Analytical Results January 2022

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

						Che	mical Constitu	uent Concentra	ation			
Property Address	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Lithium	Selenium	Silver	Mercury	VOCs
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg
NE Fuson & Delaware Intersection	A47-sed	1/6/2022	3.4	85.4	<0.75	9.3	40.8	9.0	<1.5	<0.75	N/A	ND
4849 Blk S Delaware Dr	A48-sed	1/6/2022	7.8	93.9	<0.87	13.6	78.3	11.6	<1.7	<0.87	<0.40	ND
	A50sed	1/6/2022	4.4	71.7	<0.62	12.9	83.8	11.6	<1.2	< 0.62	<0.29	ND
4300/4400 BLK S Hoyt	A51sed	1/6/2022	5.0	91.8	<0.73	14.6	53.8	9.3	<1.5	< 0.73	< 0.35	ND
Ave Ave	A51sed (DUP2)	1/6/2022	5.4	121	<0.94	18.0	61.8	12.1	<1.9	<0.94	<0.35 <0.43	ND
	A52sed	1/6/2022	5.4	109	<0.93	18.0	50.6	14.3	<1.9	<0.93	<0.45	ND
Heath Ditch	A53sed	1/6/2022	4.4	58.1	<0.75	8.6	18.9	8.7	<1.5	<0.75	<0.34	ND
2022 IDEM F	Residential MTG (r	ng/kg)	5.9	1,700	7.5	1,000,000	270	240	5.3	16	2.1	
2022 IDEM Resid	ential Direct Cont	act (mg/kg)	9.5	21,000	9.9		400	400 220 550 550				-
2022 IDEM RCG Industrial Direct Contact (mg/kg)			30	100,000	100		800	2,300	5,800	5,800	3.1	

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) ug/kg = micrograms per kilogram (parts per billion).
- 3) < = compound not detected at a concentration above the reporting limit.
- 4) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 5) ND = Not Detected at a concentration above the reporting limit.
- 6) N/A = Not Analyzed.
- 7) VOC = Volatile Organic Compounds.
- 8) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 9) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 10) Concentrations in **Bold** & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 11) Concentrations in Bold & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 12) Testing performed according to U.S. EPA Method 6010 (Heavy Metals), Method 7471 (Mercury) and Method 8260 (VOCs).
- 13) Extensive evaluation of potential effects of sediment chemical concentrations on ecological and/or associated human food chain threats was beyond the scope of this investigation.

# Table 6 Private Well Groundwater Analytical Results April 2022

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

Property Address						Chemical Constituent Concentration											
ANON2 (SW of Industrial Control) (Industrial Control) (In	Property Address		Sample Location*	J .	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Other VOC Constituents	PCBs	PFAS	
SW of Industria Center						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	Constituent ug/L	ug/L	ug/L	
\$90.9 \$deferemend Pr   DW-3   Outdoor House Spigot   15   4/6/2002   2.0   314   4.02.0   2.0   2.0   2.0   2.0   0.00   0.00   ND   NA   NA   NA   S30.9 W R S28   DW-4   Outdoor House Spigot   15   4/6/2002   4.0   <1.0   <0.0   <0.0   2.0   2.0   2.0   <0.0   ND   ND   NA   NA   NA   NA   S30.9 W R S28   DW-4   Outdoor House Spigot   15   4/6/2002   4.0   <1.0   <0.0   <0.0   <0.0   <0.0   <0.0   ND   ND   NA   NA   NA   NA   NA   S30.9 W R S28   DW-4   Outdoor House Spigot   15   4/6/2002   4.0   <1.0   <0.0   <0.0   <0.0   <0.0   <0.0   ND   ND   NA   NA   NA   NA   NA   NA		DW-1	Garage, direct from well	20	4/6/2022	<1.0	164	<0.20	<2.0	5.0	<2.0	<0.50	<0.20	ND	NA	NA	
3308 W Finestwood Dr   DW-5   Outdoor House Spigot   15   4/6/2022   3.2   144   <0.20   <0.20   2.0   <0.50   <0.20   <0.00   ND   NA   NA   NA   NA   NA   NA   NA	5200 S Edgewood Dr		Outdoor House Spigot	20		<1.0				•					NA	NA	
Solid S Breezewood Dr   DW-5   Quidoor House Spigot (through water softener)   15   4/6/2022   4.0   <1.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0   <0.0			Outdoor House Spigot	15							<2.0				NA		
Substractive   Subs	3305 W CR 325 S	DW-4	Outdoor House Spigot	15	4/6/2022	3.2	144	<0.20	<2.0	29.4	<2.0	<0.50	<0.20	ND	NA	NA	
Name	5304 S Breezewood Dr	DW-5	. 0	15	4/6/2022	4.0	<1.0	<0.20	<2.0	4.1	<2.0	<0.50	<0.20	ND	NA	NA	
3408 W Fleetwood Dr   DW-8   Outdoor House Spigot   15   4/6/2022   <1.0   503   <0.20   <2.0   <1.0   503   <0.20   <2.0   <1.0   503   <0.20   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <2.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1	3605 W Fleetwood Dr	DW-6	1 0	15	4/6/2022	<1.0	1.5	<0.20	<2.0	27.9	<2.0	<0.50	<0.20	ND	NA	NA	
3300 W Fusion Rd   DW-9   Front Yard Well Connection   20   4/6/2022   <1.0   519   <0.20   <2.0   <1.0   <2.0   <0.50   <0.20   <0.50   <0.20   ND   ND   ND   NA															NA		
3500 W Fusin Rd   DW-10   Outdoor Spigol (not known if goes through water softener)   15   4/6/2022   2.7   250   0.22   2.0   2.4   < 2.0   0.50   < 0.20   ND   ND   ND   NA																	
Solid Note   100	3300 W Fuson Rd	DW-9		20	4/6/2022	<1.0	519	<0.20	<2.0	<1.0	<2.0	<0.50	<0.20	ND	ND	NA	
4500 S Hoyt Ave   DW-11 (DUP) (not through water softener or filter)   15   4/6/2022   2.7   243   <0.20   <2.0   3.4   <2.0   <0.50   <0.20   ND   ND   NA	3500 W Fuson Rd	DW-10	. •	15	4/6/2022	<1.0	9.3	<0.20	<2.0	1.8	<2.0	<0.50	<0.20	ND	ND	NA	
4500 S Holyt Ave   DW-11 (not through water softener or filter)   15		DW-11	Garago		4/6/2022	2.7	250	0.22	<2.0	24.4	<2.0	<0.50	<0.20	ND	ND	NA	
3109 S Hoyt Ave   DW-13   Outdoor House Spigot (direct to well connection)   15   4/6/2022   4.2   114   <0.20   <2.0   2.2   <2.0   <0.50   <0.20   ND   ND   NA	4500 S Hoyt Ave			15	4/6/2022	2.7	243	<0.20	<2.0	3.4	<2.0	<0.50	<0.20	ND	ND	NA	
Stops Hoyt Ave   DW-13   (direct to well connection)   15   4/6/2022   4.2   114   <0.20   <2.0   2.2   <2.0   <0.50   <0.20   <0.00   ND   ND   NA	4512 S Hoyt Ave	DW-12	Outdoor House Spigot	15	4/6/2022	<1.0	279	<0.20	<2.0	1.8	<2.0	<0.50	<0.20	ND	ND	NA	
4608 S Hoyt Ave         DW-15         Outdoor House Spigot         15         4/7/2022         2.7         290         <0.20         <1.0         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0.20         <0	3109 S Hoyt Ave	DW-13		15	4/6/2022	4.2	114	<0.20	<2.0	2.2	<2.0	<0.50	<0.20	ND	ND	NA	
4400 S Hoyt Ave         DW-16         Outdoor House Spigot         15         4/7/2022         1.2         131	4612 S Hoyt Ave	DW-14	Outdoor House Spigot	15	4/7/2022	2.8	303	<0.20	<2.0	25.0	<2.0	<0.50	<0.20	ND	ND	NA	
4408 S Hoyt Ave         DW-17         Outdoor House Spigot (through water softener)         15         4/7/2022         1.5         2.6         0.33         <2.0         188         <2.0         <0.50         <0.20         ND         ND         NA           4301 S Hoyt Ave         DW-18         Outdoor House Spigot (water softener bypassed)         15         4/7/2022         5.4         <1.0	4608 S Hoyt Ave	DW-15	Outdoor House Spigot	15	4/7/2022	2.7	290	<0.20	<2.0	<1.0	<2.0	<0.50	<0.20	ND	ND	NA	
4408 S Hoyt Ave DW-17	4400 S Hoyt Ave	DW-16	Outdoor House Spigot	15	4/7/2022	1.2	131	<0.20	<2.0	<1.0	<2.0	<0.50	<0.20	ND	ND	NA	
4301 S Hoyt Ave DW-18 Outdoor House Spigot (water softener bypassed)  15 4/7/2022 5.4 <1.0 <0.20 <2.0 10.6 <2.0 <0.50 <0.20 <0.50 <0.20 Section ND ND NA  4201 S Hoyt Ave DW-19 Outdoor House Spigot 15 4/7/2022 1.1 229 <0.20 <2.0 32.0 <2.0 0.64 <0.20 Section ND ND NA  The proof of the proof o	j		Outdoor House Spigot						<2.0	188		ì		ND	ND	NA	
3701 S Hoyt Ave DW-20 Front Yard Spigot 15 4/7/2022 <1.0 93.8 <0.20 <2.0 <1.0 <2.0 <0.50 <0.50 <0.20 Shown dichloromethane <8-GTap Chloroform <8-GTap Chloromethane <8-GTap Dibromochloromethane <8-GTap All other VOC's Analyzed ND NA ND	4301 S Hoyt Ave	DW-18	Outdoor House Spigot	15	4/7/2022	5.4	<1.0	<0.20	<2.0	10.6	<2.0	<0.50	<0.20	ND	ND	NA	
3701 S Hoyt Ave DW-20 Front Yard Spigot 15 4/7/2022 <1.0 93.8 <0.20 <2.0 <1.0 <2.0 <0.50 <0.50 Chloroform < R-GTap Dibromochloromethane < R-GTap All other VOC's Analyzed ND ND	4201 S Hoyt Ave	DW-19	` ;	15	4/7/2022	1.1	229	<0.20	<2.0	32.0	<2.0	0.64	<0.20	ND	ND	NA	
	3701 S Hoyt Ave	DW-20	Front Yard Spigot	15	4/7/2022	<1.0	93.8	<0.20	<2.0	<1.0	<2.0	<0.50	<0.20	Chloroform < R-GTap Dibromochloromethane < R-GTap	NA NA	ND	
	2	022 IDFM R	esidential Groundwater Tan Screening Level (up	n/l )	ı	10	2.000	5	100	15	50	94	2				

- 1) ug/L = micrograms per liter (parts per billion).
- 2) < = compound not detected at a concentration above the reporting limit.
- 3) DUP = Field duplicate sample (for Quality Assurance / Quality Control purposes).
- 4) ND = Not Detected at a concentration above the reporting limit.
- 5) NA = Not Analyzed.
- 6) VOC = Volatile Organic Compounds; PCBs = Polychlorinated Biphenyls; PFAS = Per- and Polyfluoroalkyl compounds.
- 7) R-GTap = 2022 IDEM Remediation Closure Guide (RCG) Residential Groundwater Tap screening levels.
- 8) Concentrations in **Bold & Orange** exceed IDEM RCG Residential Groundwater Tap screening levels.
- 9) Testing performed according to U.S. EPA Method 200.8 (Heavy Metals), Method 245.1 (Mercury), Method 524.2 (VOCs), Method 505 (PCBs) and Method 537.1 (PFAS).
- 10) \*All sample locations taken from 'untreated' outdoor spigots unless otherwise noted, where 'untreated' indicates the homeowner either knew or had reasonable certainty that either filtration or water softener system did not precede the sampling location.
- 11) "ANON" indicates addresses which have been "anonymized" at the request of the private property owner.

# Table 7 Surficial Soil Sampling Overall Summary

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

					Chemical (	Constituent Cor	ncentration						
Sampling Event	Statistical Information	Arsenic	Barium	Cadmium	Chromium	Lead	Lithium	Selenium	Silver	Mercury			
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
	Sample Quantity*		13										
	Samples Above Detection Limit	13	13	0	13	13	13	0	0	0			
October 2021	Percent Above Detection	100%	100%	0%	100%	100%	100%	0%	0%	0%			
Soil Sampling**	Minimum	2.7	53.4	ND	11.5	16.4	7.6	ND	ND	ND			
Son Sampling	Maximum	8.8	202	ND	20.5	310	17.4	ND	ND	ND			
	Average	5.2	100	ND	15.3	68.7	11.5	ND	ND	ND			
	Median	4.2	84.9	ND	15.5	32.9	10.3	ND	mg/kg         mg/kg           0         0           0%         0%           ND         ND           ND         ND           ND         ND	ND			
	Sample Quantity*					138							
	Samples Above Detection Limit	16	138	1	0	105	N/A	19	4	0			
Dagambar 2024	Percent Above Detection	12%	100%	1%	0%	76%	N/A	14%	3%	0%			
December 2021 XRF Soil Analysis***	Minimum	6	21	38	ND	10	N/A	3	3	ND			
ARE Soil Allalysis	Maximum	39	280	38	ND	227	N/A	19	7	ND			
	Average	14	91	38	ND	52	N/A	mg/kg         mg/kg         mg/kg           13         0         0           100%         0%         0%           7.6         ND         ND           17.4         ND         ND           11.5         ND         ND           10.3         ND         ND           N/A         19         4           N/A         3%         3           N/A         19         7           N/A         19         7           N/A         10         4           N/A         9         3           240         5.3         16           220         550         550	ND				
	Median	10.5	72	38	ND	32	N/A	9	3	ND			
2022 IDEM Resid	dential MTG (mg/kg)	5.9	1,700	7.5	1,000,000	270	240	5.3	16	2.1			
2022 IDEM Residenti	al Direct Contact (mg/kg)	9.5	21,000	9.9		400	220	550	550	3.1			
2022 IDEM Industria	I Direct Contact (mg/kg)	30	100,000	100		800	2,300	5,800	5,800	3.1			

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) ND = compound not detected at a concentration above the reporting limit.
- 3) N/A = not analyzed.
- 4) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 5) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 6) Concentrations in Bold & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 7) Concentrations in **Bold** & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 8) \*Sample quantity does not include Quality Assurance/Quality Control samples.
- 9) \*\*Testing performed according to U.S. EPA Method 6010 (Heavy Metals) and Method 7471 (Mercury).
- 10) \*\*\*In situ soil screening performed using a field portable X-Ray Fluorescence (XRF) device via U.S. EPA SW-846 Test Method 6200 at 50 second intervals per sampling location unless otherwise noted in Table 2.

# Table 8a Surficial Soil Sampling

## Lead Summary - Directional/Roadway South Muncie Industria Center

Muncie, Delaware County, IN MUNDELL Project Number: M20032

	Sar	nple Location			Lea	nd (mg/kg)			
Sampling Event	Direction	Roadway Classification	Sample Quantity*	Samples Above Detection Limit	Percent Above Detection	Minimum	Maximum	00	Median
October 2021	Northwest Southwest Southeast	Local Road or In Yard Away From Major Road	4	4	100%	21.3	27.7	24.4	24.2
Soil Sampling**	(Not Northeast)	Major Road	4	4	100%	38.6	76.1	50.6	43.8
		Northeast	-	-	-	Selection         Minimum         Maximum         Average         Median           100%         21.3         27.7         24.4         24.2           100%         38.6         76.1         50.6         43.8           -         -         -         -         -           67%         10         185         29         22           96%         21         206         59         45           100%         24         227         92         88           -         8.10         259         28.7         21.8           -         12.0         260         57.3         32.5           -         20         370         68         35			
December 2021	Northwest Southwest Southeast	Local Road or 75 50 67%		67%	10	185	29	22	
XRF Soil Analysis***	(Not Northeast)	Major Road	27	26	96%	21	206	59	45
		Northeast	25	25	100%	24	227	92	88
		tural Indiana 4, as cited in IDEM, 2017a)	56	-	-	8.10	259	28.7	21.8
Background Concentration	Indianapolis	s Parks (IDEM, 2017a)	56	-	-	12.0	260	57.3	32.5
	Terre H	aute (IDEM, 2014)	18	-	-	20	370	68	35
		2022 IDEM Residential MTG (mg	/kg)				2	70	
	202	22 IDEM Residential Direct Contac	t (mg/kg)			400			
	20		800						

#### Notes:

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 3) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 4) Concentrations in **Bold** & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 5) Concentrations in Bold & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 6) \*Sample quantity does not include Quality Assurance/Quality Control samples.
- 7) \*\*Testing performed according to U.S. EPA Method 6010 (Heavy Metals).
- 8) \*\*\*In situ soil screening performed using a field portable X-Ray Fluorescence (XRF) device via U.S. EPA SW-846 Test Method 6200 at 50 second intervals per sampling location unless otherwise noted in Table 2.

### Table 8b Surficial Soil Sampling

### **Lead Summary - Southwest Drainage Basin**

South Muncie Industria Center Muncie, Delaware County, IN MUNDELL Project Number: M20032

	5	Sample Location			Lead (mg/	/kg)			
Sampling Event	Channel or Retention Pond	Specific Location (Relative to Retention Pond)	Sample Quantity*	Samples Above Detection Limit	Percent Above Detection	Minimum	Maximum	Average	Median
	Channel	Downstream	2	2	100%	16.4	17	16.7	16.7
October 2021	Channel	Upstream ( <b>South - Upper Banks</b> )	1	1	100%	32.9	32.9	32.9	32.9
Soil Sampling**	Retention Pond	Banks				047		004	004
	Channel	Upstream ( <b>South - Lower Banks</b> )	2	2	100%	217	310	264	264
	Channel	Downstream	4	0	0%	-	-	-	-
	Channel	Upstream ( <b>North</b> )	3	0	0%	-	-	-	-
December 2021 XRF Soil Analysis***	Channel	Upstream ( <b>South - Upper Banks</b> )	3	3	100%	19	59	36	30
	Retention Pond	Banks		1	100%	80	80	80	80
	Channel	Upstream (South - Lower Banks)	] '	I I	100%	80	80	80	80
	(Smith et al., 2	Rural Indiana 2014, as cited in IDEM, 2017a)	56	-	-	8.10	259	28.7	21.8
Background Concentration	Indianap	olis Parks (IDEM, 2017a)	56	-	-	12.0	260	57.3	32.5
	Terre	Haute (IDEM, 2014)	18	-	-	20	370	68	35
	2	022 IDEM Residential MTG (mg/kg)					270	0	
	2022 I	DEM Residential Direct Contact (mg/kg)				400			
	2022			800	0				

#### Notes:

- 1) mg/kg = milligrams per kilogram (parts per million).
- 2) IDEM Residential MTG = IDEM Remediation Closure Guide (RCG) residential soil migration to groundwater screening levels.
- 3) Concentrations in **Bold** are reported in exceedance of the associated IDEM RCG Residential MTG screening levels.
- 4) Concentrations in Bold & Orange exceed IDEM RCG Residential Direct Contact Soil Exposure screening levels.
- 5) Concentrations in **Bold** & Purple exceed IDEM RCG Commercial/Industrial Direct Contact Soil Exposure screening levels.
- 6) \*Sample quantity does not include Quality Assurance/Quality Control samples.
- 7) \*\*Testing performed according to U.S. EPA Method 6010 (Heavy Metals).
- 8) \*\*\*In situ soil screening performed using a field portable X-Ray Fluorescence (XRF) device via U.S. EPA SW-846 Test Method 6200 at 50 second intervals per sampling location unless otherwise noted in Table 2.

### **APPENDIX A**

## LABORATORY CERTIFICATES OF ANALYSIS AND CHAINS OF CUSTODY

Appendix A1. October 2021 Laboratory Certificates of Analysis and Chains

of Custody

Appendix A2. January 2022 Laboratory Certificates of Analysis and Chains

of Custody

Appendix A3. April 2022 Laboratory Certificates of Analysis and Chains

of Custody



## **APPENDIX A1**

## OCTOBER 2021 CERTIFICATES OF ANALYSIS AND CHAINS OF CUSTODY







November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300949001	A1	Solid	10/20/21 11:40	10/22/21 13:05
50300949002	A2	Solid	10/20/21 12:05	10/22/21 13:05



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
50300949001	A1	EPA 6010	JPK	8	PASI-I	
		EPA 7471	DDA	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	
50300949002	A2	EPA 6010	JPK	8	PASI-I	
		EPA 7471	DDA	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50300949001	A1					
EPA 6010	Arsenic	2.7	mg/kg	1.2	10/30/21 03:28	
EPA 6010	Barium	68.5	mg/kg	1.2	10/30/21 03:28	
EPA 6010	Chromium	11.9	mg/kg	1.2	10/30/21 03:28	
EPA 6010	Lead	23.8	mg/kg	1.2	10/30/21 03:28	
EPA 6010	Lithium	7.6	mg/kg	6.2	10/30/21 03:28	N2
SM 2540G	Percent Moisture	20.7	%	0.10	10/25/21 11:50	N2
50300949002	A2					
EPA 6010	Arsenic	3.7	mg/kg	1.3	10/30/21 03:30	
EPA 6010	Barium	76.6	mg/kg	1.3	10/30/21 03:30	
EPA 6010	Chromium	15.5	mg/kg	1.3	10/30/21 03:30	
EPA 6010	Lead	46.1	mg/kg	1.3	10/30/21 03:30	
EPA 6010	Lithium	9.4	mg/kg	6.3	10/30/21 03:30	N2
SM 2540G	Percent Moisture	24.8	%	0.10	10/25/21 11:50	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Date: 11/01/2021 12:17 PM

Sample: A1	Lab ID: 503	00949001	Collected: 10/20/2	1 11:40	Received: 10	)/22/21 13:05 N	Matrix: Solid							
Results reported on a "dry wei	ght" basis and are adj	usted for p	ercent moisture, sa	mple si	ze and any dilu	tions.								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual						
6010 MET ICP	Analytical Meth	Analytical Method: EPA 6010 Preparation Method: EPA 3050												
	Pace Analytical Services - Indianapolis													
Arsenic	2.7	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:28	7440-38-2							
Barium	68.5	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:28	7440-39-3							
Cadmium	ND	mg/kg	0.62	1	10/29/21 07:51	10/30/21 03:28	7440-43-9							
Chromium	11.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:28	7440-47-3							
Lead	23.8	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:28	7439-92-1							
Lithium	7.6	mg/kg	6.2	1	10/29/21 07:51	10/30/21 03:28	7439-93-2	N2						
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:28	7782-49-2							
Silver	ND	mg/kg	0.62	1	10/29/21 07:51	10/30/21 03:28	7440-22-4							
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	od: EP	A 7471									
	Pace Analytica	l Services -	Indianapolis											
Mercury	ND	mg/kg	0.26	1	10/28/21 09:09	10/28/21 17:40	7439-97-6							
Percent Moisture	Analytical Meth	nod: SM 25	40G											
	Pace Analytica	l Services -	Indianapolis											
Percent Moisture	20.7	%	0.10	1		10/25/21 11:50		N2						



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Date: 11/01/2021 12:17 PM

Sample: A2	Lab ID: 503	00949002	Collected: 10/20/2	1 12:05	Received: 10	)/22/21 13:05 N	Matrix: Solid					
Results reported on a "dry weigh	t" basis and are adj	usted for p	ercent moisture, sa	mple si	ize and any dilu	tions.						
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual				
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050											
	Pace Analytica	l Services -	Indianapolis									
Arsenic	3.7	mg/kg	1.3	1	10/29/21 07:51	10/30/21 03:30	7440-38-2					
Barium	76.6	mg/kg	1.3	1	10/29/21 07:51	10/30/21 03:30	7440-39-3					
Cadmium	ND	mg/kg	0.63	1	10/29/21 07:51	10/30/21 03:30	7440-43-9					
Chromium	15.5	mg/kg	1.3	1	10/29/21 07:51	10/30/21 03:30	7440-47-3					
Lead	46.1	mg/kg	1.3	1	10/29/21 07:51	10/30/21 03:30	7439-92-1					
Lithium	9.4	mg/kg	6.3	1	10/29/21 07:51	10/30/21 03:30	7439-93-2	N2				
Selenium	ND	mg/kg	1.3	1	10/29/21 07:51	10/30/21 03:30	7782-49-2					
Silver	ND	mg/kg	0.63	1	10/29/21 07:51	10/30/21 03:30	7440-22-4					
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP	A 7471							
	Pace Analytica	l Services -	Indianapolis									
Mercury	ND	mg/kg	0.26	1	10/28/21 09:09	10/28/21 17:42	7439-97-6					
Percent Moisture	Analytical Meth	nod: SM 254	40G									
	Pace Analytical Services - Indianapolis											
Percent Moisture	24.8	%	0.10	1		10/25/21 11:50		N2				



Project:

M20032 Muncie Phase II

Pace Project No.:

50300949

QC Batch: QC Batch Method: 647192

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300949001, 50300949002

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50300949001, 50300949002

Blank Result

Reporting Limit

Qualifiers Analyzed

Mercury

Units mg/kg

ND

0.20 10/28/21 17:11

LABORATORY CONTROL SAMPLE:

Parameter

2981841

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Parameter

Date: 11/01/2021 12:17 PM

Units mg/kg

Result

0.5

0.52

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2981842

MSD

MSD

MS

MSD % Rec

105

% Rec Limits

Max RPD

MS

Spike

Spike Conc.

MS Result

Result

% Rec 104

**RPD** 

Qual

50300947002

Conc.

0.68

2981843

0.71

103

75-125

20

3

Mercury

ND mg/kg 0.65 0.66

Units

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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Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Date: 11/01/2021 12:17 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300949001, 50300949002

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300949001, 50300949002

		Blank Reporting						
Parameter	Units	Result	Limit	Analyzed	Qualifiers			
Arsenic	mg/kg	ND	0.97	10/30/21 02:44				
Barium	mg/kg	ND	0.97	10/30/21 02:44				
Cadmium	mg/kg	ND	0.49	10/30/21 02:44				
Chromium	mg/kg	ND	0.97	10/30/21 02:44				
Lead	mg/kg	ND	0.97	10/30/21 02:44				
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2			
Selenium	mg/kg	ND	0.97	10/30/21 02:44				
Silver	mg/kg	ND	0.49	10/30/21 02:44				

LABORATORY CONTROL SAMPLE:	2979589	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120 N	2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591							
			MS	MSD								
	50	0300947002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300949

QC Batch:

QC Batch Method:

646639

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300949001, 50300949002

SAMPLE DUPLICATE: 2979704

Parameter

Parameter

50300947003 Result

Dup

Max RPD RPD

Qualifiers

Percent Moisture

Percent Moisture

Units %

54.6

Result 54.9

5 N2

SAMPLE DUPLICATE: 2979705

Date: 11/01/2021 12:17 PM

50300913001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Units %

11.7

11.9

2

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

#### **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**

Date: 11/01/2021 12:17 PM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300949

Date: 11/01/2021 12:17 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300949001	A1	EPA 3050	646596	EPA 6010	647796
50300949002	A2	EPA 3050	646596	EPA 6010	647796
50300949001	A1	EPA 7471	647192	EPA 7471	647468
50300949002	A2	EPA 7471	647192	EPA 7471	647468
50300949001	A1	SM 2540G	646639		
50300949002	A2	SM 2540G	646639		

	CHAIN-OF-CUSTODY Analytical Request Document									LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number of								
Pace Analytical "			chain of custody						and	MTJL Log-in Number Here								
- raconilarytical		Conditions	found at: https:/	//info.pacelabs	s.com/hubfs/pa	ıs-standard-teri	ms.pdf	1.0			Ĺ	つりかし	<i>1</i> 079	7			1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1	4.
		Chain-of-C	ustody is a LEG		ENT - Comple	te all relevan	nt fields			July 24		ر '' ال				LIADIICE	ONLY	
Company: Mundell and Associates,			Billing Infor		- 1 m - 21	die in acc	10				The second second	2000 Web 2000 X			THE PERSON NAMED IN	or LAB USE	CONTRACTOR OF THE STREET	
Address: 110 S Downey Ave, Indian	apolis, IN 46219			· · · · · · · · · · · · · · · · · · ·	e, Indianapo					Usa	5-22	ner Preservat	100000	22.5		oject Manager:		e gus a pintin Galan Bask as S
Report To: Luke Johnstone			Email To: L	johnstone	@mundellas	ssociates.cc	om .			** Preser	rvative Types: (1	.) nitric acid, (2)	sulfuric acid	, (3) hydrochlo Ifate, (9) hexar	ric acid, (4) ne, (A) asco	sodium hydroxide rbic acid, (B) amm	e, (5) zinc acetat onium sulfate,	e,
Сору То:			Site Collect							(C) ammo	onium hydroxide	2, (D) TSP, (U) U	Inpreserved,	(O) Other			T-828-1-828-1-8-1-8-1-8-1-8-1-8-1-8-1-8-1	
				Hoyt Ave		Muncie, Ir				+		Analyses			F-14-400-4000-10-00	ofile/Line:		7.5
Customer Project Name/Number: M20032 Muncie Phase II			1	County/City Muncie	•	e Zone Colle 「[ ]MT[		(]ET							Custo	ample Receip dy Seals Pre	esent/Intact	t Y N NA
Phone: 317-630-9060	Site/Facility ID	#:			Complianc	e Monitorir	ng?									dy Signature ctor Signatu		
Email: Ljohnstone@mundellassocia	es.com				[ ] Yes	[ ] No				138				6-20 <del>1</del>	Bottl	es Intact		Y N NA
Collected By (print):	Purchase Order	r#:	· · · · · · · · · · · · · · · · · · ·		DW PWS II		•			6010B						ect Bottles Lcient Volume		Y N NA Y N NA
Luke Johnstone	Quote #:				DW Location		an Icc		(0)	2A 6			153.5		Samp1	es Received	on Ice	Y N NA
Collegted By (signature)	Turnaround Da	ite Requir	ea:		[x] Yes	ely Packed o	on ice:		Glass (	aE						- Headspace <i>P</i> Regulated Sc		Y N NA Y N NA
Sulle Galestoce	Rush: (Expedit	e Charees	Applyl	pply) Field Filtered (if applicable):											Sampl	les in Holdin	ng Time	Y N NA
Sample Disposal:  [X] Dispose as appropriate		_		Day [] Yes [] No								3.72			Resid	dual Chlorine	e Present	Y N NA
[ ] Return	[ ]2 Day [			Day []Yes []NO [G]						#						trips: le pH Accepta	ible	Y N NA
[ ] Archive:	[ ]4 Day [				Analysis: _				Plastic (P)	tals 4	Metals + Lithium via EPA				pH St	erips:		Y N NA
[ ] Hold: * Matrix Codes (Insert in Matrix bo)						vater (WW)	١,		e: P	Me					## 1515 FEB 1884 1894	Acetate Stri	A STOREGO AND A STOREGO AND A STOREGO	
Product (P), Soil/Solid (SL), Oil (OL	), Wipe (WP), Ai	r (AR), Tis	sue (TS), Bio	assay (B), V	/apor (V), Ot	ther (OT)			T <sub>V</sub>	(A 8			Engl			USE ONLY:		
	T	Comp /		ted (or		osite End	Res	# of	Container Type:	RCRA						USE ONLY: Sample # / Co	omments:	
Customer Sample ID	Matrix *	Grab		ite Start)	<u> </u>	<u> </u>	CI	Ctns	ıtaiı	Total							SUL	
			Date	Time	Date	Time	<u></u>		Ö	12	10 m					awayay a comillion on the constitutionable	-UK	
A1	SL	Grab	10/20	11:40			1	1	G	X					$-\infty$		1000 S 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
A2	SL	Grab	10/20	12:05			1	1	G	x.			13.65		_/20	$\mathcal{L}$		
	+	1 31 81	1 -0,20	<del> </del>	<del>                                     </del>	<del>                                     </del>	1	<del> </del>										
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Customer Remarks / Special Cond	itions / Possible	Hazards:	Type of Ice	e Üsed:	Wet	Blue:	Dry.	None			SHORT HOLD	S PRESENT (<	72 hours):	Y N	I/A	LAB Sample Ter Temp Blank R	uperature inf leceived: /	N NA
Total RCRA 8 Metals + Lithium			Packing M	laterial Use	id:						Lab Tracking	#:				Temp Blank R Therm ID#: Cooler 1 Tem	- 6)\	/ /4
						ratio									1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Cooler 1 The	erm Corr. F	actor ( Lou
			Radchem	sample(s)	screened (<	500 cpm):	Ϋ́N	N NA	<b>C</b>		Samples rece FEDEX	eived via: UPS Clier	it Courie	Pace Cour	ier	Cooler 1 Cor	rrected Tem	p: <b>(J</b> 0C_
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	LE CON	<u>IDITION</u>	UPON RECEI	PTFORM	*			
Pace Analytical*  Date/Time and Initials of person examining contents	1/2		100 SMI		·		1	
1. Courier:  FED EX UPS CLIENT PAGE  2. Custody Seal on Cooler/Box Present: Yes	CE U	USPS 🗆	OTHER	5. Packing Material:	□ Bubble Wrap	Bubble	: Bags	
(If yes)Seals Intact:		were prese	ent)					
3. Thermometer: 1 2 3 4 5 6 A B C D E F				6. Ice Type: Wet	☐ Blue ☐ None			
4. Cooler Temperature: 0.7/6.7  Temp should be above freezing to 6°C (Initial/Corrected)				7. If temp. is over 6°C or 0	under 0°C, was the PM	notified?:	☐ Yes	□ No
	discrepan	cies will be	e written out in the c	omments 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)			CHECKED?: excep	ing acid/base pres. Have be tions: VOA, coliform, LLHg, otum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:			HNO3 (<2) H2SO4 Any non-conformanc count form	(<2) NaOH (>10) NaOH/Z e to pH recommendations will t	CnAc (>9) oe noted on the container			
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine	Check (SVOC 625 Pest/PCB	3 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			
Custody Signatures Present?			Headspace Wiscon	sin Sulfide?				
Containers Intact?:	/		Headspace in VOA See Containter Cou			Present	Absent	No VOA Vials Sen
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?:		<u></u>		/-
COMMENTS:		,						
		,						
		-		:				
	<del></del>						-	

COC PAGE

\*\* Place a RED dot on containers

that	are	Out	οf	conformance	
ulai	ai c	υuι	U,	CONTOURANCE	

		Kit	-					1																			1				nance **
COC Line Item	WGFU		DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	BP3B	BP3Z	ССЗН	Syringe Kit				HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
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Container Codes

	iei Codes				
	Gla	SS			
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 HCI 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 unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass		250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

<b>Plastic</b>	: / Misc.

	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
DDAC	125ml H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

WT		Water				
SL		Solid				
NAL	OL	Non-aqueous liquid	Oil	 		
WP	4	Wipe			- Adaptais - Colo	P





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300935001	A3	Solid	10/20/21 12:20	10/22/21 13:05
50300935002	A4	Solid	10/20/21 12:35	10/22/21 13:05



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50300935001	A3	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300935002	A4	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50300935001	A3					
EPA 6010	Arsenic	3.6	mg/kg	1.2	10/30/21 02:48	
EPA 6010	Barium	75.7	mg/kg	1.2	10/30/21 02:48	
EPA 6010	Chromium	14.9	mg/kg	1.2	10/30/21 02:48	
EPA 6010	Lead	38.6	mg/kg	1.2	10/30/21 02:48	
EPA 6010	Lithium	9.6	mg/kg	6.1	10/30/21 02:48	N2
SM 2540G	Percent Moisture	24.8	%	0.10	10/25/21 12:05	N2
50300935002	A4					
EPA 6010	Arsenic	4.2	mg/kg	1.2	10/30/21 02:50	
EPA 6010	Barium	125	mg/kg	1.2	10/30/21 02:50	
EPA 6010	Chromium	15.5	mg/kg	1.2	10/30/21 02:50	
EPA 6010	Lead	27.7	mg/kg	1.2	10/30/21 02:50	
EPA 6010	Lithium	10.3	mg/kg	5.9	10/30/21 02:50	N2
SM 2540G	Percent Moisture	23.3	%	0.10	10/25/21 12:05	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Date: 11/01/2021 12:16 PM

Sample: A3	Lab ID: 503	00935001	Collected: 10/20/2	1 12:20	Received: 10	)/22/21 13:05 N	/latrix: Solid	•
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple si	ze and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP/	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	3.6	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:48	7440-38-2	
Barium	75.7	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:48	7440-39-3	
Cadmium	ND	mg/kg	0.61	1	10/29/21 07:51	10/30/21 02:48	7440-43-9	
Chromium	14.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:48	7440-47-3	
Lead	38.6	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:48	7439-92-1	
Lithium	9.6	mg/kg	6.1	1	10/29/21 07:51	10/30/21 02:48	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:48	7782-49-2	
Silver	ND	mg/kg	0.61	1	10/29/21 07:51	10/30/21 02:48	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	od: EP/	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	10/28/21 09:02	10/28/21 16:56	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	24.8	%	0.10	1		10/25/21 12:05		N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Date: 11/01/2021 12:16 PM

Sample: A4	Lab ID: 503	00935002	Collected: 10/20/2	1 12:35	Received: 10	)/22/21 13:05 N	/latrix: Solid	
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	4.2	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:50	7440-38-2	
Barium	125	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:50	7440-39-3	
Cadmium	ND	mg/kg	0.59	1	10/29/21 07:51	10/30/21 02:50	7440-43-9	
Chromium	15.5	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:50	7440-47-3	
Lead	27.7	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:50	7439-92-1	
Lithium	10.3	mg/kg	5.9	1	10/29/21 07:51	10/30/21 02:50	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:50	7782-49-2	
Silver	ND	mg/kg	0.59	1	10/29/21 07:51	10/30/21 02:50	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	10/28/21 09:02	10/28/21 16:58	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	23.3	%	0.10	1		10/25/21 12:05		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50300935

QC Batch: QC Batch Method: 646645

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Associated Lab Samples:

50300935001, 50300935002

METHOD BLANK:

50300935001, 50300935002

Blank

Reporting

Result

Limit

0.45

MS

Qualifiers Analyzed

Mercury

Mercury

Mercury

Date: 11/01/2021 12:16 PM

Units mg/kg

Units

mg/kg

ND

Matrix: Solid

0.20 10/28/21 16:02

96

LABORATORY CONTROL SAMPLE: Parameter

Parameter

2979717

Spike Conc.

0.47

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

ND

2979718

2979719

50300485002 Parameter Units Result

mg/kg

MS Spike

0.47

MSD

MSD Result

MS % Rec % Rec

Max

RPD Qual

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

Conc.

Spike Conc. 0.48

Result 0.58 0.61

113

% Rec 116

MSD

Limits **RPD** 75-125

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Date: 11/01/2021 12:16 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300935001, 50300935002

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300935001, 50300935002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

LABORATORY CONTROL SAMPLE:	2979589					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120 N	<b>N</b> 2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591				·			
			MS	MSD								
	50	0300947002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300935

QC Batch: QC Batch Method:

646637

Analysis Method:

SM 2540G

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300935001, 50300935002

SAMPLE DUPLICATE: 2979698

Parameter

50300872009 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Units %

15.7

15.0

5 N2

SAMPLE DUPLICATE: 2979699

Date: 11/01/2021 12:16 PM

50300947002 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Parameter Percent Moisture

Units %

19.7

17.3

13

5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

#### **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**

Date: 11/01/2021 12:16 PM

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.

R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300935

Date: 11/01/2021 12:16 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300935001	A3	EPA 3050	646596	EPA 6010	647796
50300935002	A4	EPA 3050	646596	EPA 6010	647796
50300935001	A3	EPA 7471	646645	EPA 7471	647464
50300935002	A4	EPA 7471	646645	EPA 7471	647464
50300935001	A3	SM 2540G	646637		
50300935002	A4	SM 2540G	646637		

100			-CUSTO								LAB USE	ONLY- Affix			zze wystagotki force	ace Workord	ler Number o	riska ang s
Pace Analytical"	Submitting a s	ample via this	s chain of custor is found at: http:	dy constitutes	acknowledgmen	t and acceptar	nce of the	Pace Term	s and	2000				TJL Log-in Nur	nber Here	STORES CONTRACTOR		
			Custody is a LI									G(	うろし	ソロムニ	)		8.1576/03	
Company: Mundell and Associate	es, Inc.		Billing Info	ormation:						1	ΔΙ			ED AREAS	Sara for	LABLICE	ONLY	
Address: 110 S Downey Ave, Indi	anapolis, IN 4621	9	110 S	Downey A	ve, Indianap	olis, IN 462	19					iner Preserva				ct Manager:	UNLI	
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.c	om			** Pres	ervative Types: (	1) nitric acid (	2) sulfurio aci	id (3) bydrochlo	ric acid. (4) so	dium hydroxida	(5) zinc acotat	
Сору То:			Site Collec	ction Info/A	ddress:					(6) met	hanol, (7) sodiun	n bisulfate, (8)	sodium thios	ulfate, (9) hexar	e, (A) ascorbi	c acid, (B) amm	onium sulfate,	е,
				S Hoyt Ave		Muncie, I	ndiana			(C) amr	nonium hydroxid			l, (O) Other				
Customer Project Name/Number M20032 Muncie Phase II			I.	County/Cit Muncie	•	Zone Coll		X IET			No. Control	Analyse	25	2880000 4483434		ple Receip	t Checklist	
Phone: 317-630-9060	Site/Facility ID	) #:	<u> </u>		1	e Monitori		. ^ ]	T	1 1							sent/Intact s Present	Y N NA Y N NA
Email: Ljohnstone@mundellassoc	iates.com				[ ] Yes	[ ] No			1.								re Present	
Collected By (print):	Purchase Orde	er#:			DW PWS I	D #:			1	60108					Bottles Correct	Intact Bottles		Y N NA Y N NA
Luke Johnstone	Quote #:				DW Locati				1	19,1					Suffici	ent Volume		Y N NA
Collected By (signature):	Turnaround D	ate Kequir	eo:		[x] Yes	ly Packed	on Ice:		Glass (G)	EPA						Received of Receiv		Y N NA Y N NA
Sample Disposat.	Rush: (Expedi	te Charges	(vlaga		<del></del>	ed (if appli	cable):		Gla	Metals + Lithium via					USDA Re	gulated So	ils .	Y N NA
[X] Dispose as appropriate	[ ]Same D	_			[ ] Yes	[ ] No	cobicj.		ō	in.						in Holdin l Chlorine		Y N NA Y N NA
[ ] Return	[ ]2 Day [	[ ] 3 Day							<u>E</u>	围					Cl Stri		rresent	1 N IVA
[ ] Archive:	[ ] 4 Day	[ ] 5 Day			Analysis: _				stic	+ <u>s</u>	li i					pH Acceptal	ole	Y N NA
* Matrix Codes (Insert in Matrix b	ox below): Drinkii	ng Water (	DW) Grour	nd Water (G	1/\/\ \\/asteu	rater (\A/\A/)			무	le ta					pH Stri Sulfide	ps: Present		Y N NA
Product (P), Soil/Solid (SL), Oil (C			sue (TS), Bio	oassay (B), V			·,		Type: Plastic (P)	RCRA 8 N						etate Strij	OS:	
Customer Sample ID	Matrix *	Comp /   Grab	1	cted (or site Start) Time	Compo	site End	Res Cl	# of Ctns	Container	Total RCF					LAB USE Lab Samp	ple # /-Cor	ments: L'SCUR	
A3	SL		10/20	12:20	<del> </del>		<del> </del>	1	G	x				1000 1000 1000 1000 1000 1000 1000 100	661	<u>u(                                     </u>	e scul	
A4		Grab	<del> </del>	<del></del>	<del> </del>		<del> </del>	1		2000		12000			1001			
	SL	Grab	10/20	12:35	<u> </u>			1	G	X.	3000			100	1000	/		202
		<u> </u>	<u> </u>				ļ	<u> </u>	<u> </u>									
		<u> </u>		<del></del>	ļ		<u> </u>		<u> </u>				SAL S		1			
					<u> </u>					200				115344			4	
											SIN I	19.55		0.015		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1000
					1			1		500000	200 C C C C C C C C C C C C C C C C C C							
							<del>                                     </del>	T				- E/15 1975						
				<del>                                     </del>			<del> </del>	+	<del>                                     </del>	67,000	92.74			- B		AND THE STATE OF T	2.5 (1.5 (1.5 (1.5 (1.5 (1.5 (1.5 (1.5 (1	
Customer Remarks / Special Cond	litions / Possible I	Hazards:	Type of Ice	llsed:	Wet	Blue [	Div	None			SHORT HOLDS	DDFCENT (2	72 4		IAD	Cample Tome	erature Info:	
Total RCRA 8 Metals + Lithium			Table Texts (Sec. )	aterial Used		Dide i	. <b>Y</b>	None			The second second second second second		72 nours) :	Y IN IN/.	Tem		ceived:	N NA
			acking ivi	ateriai Osec							Lab Tracking #						Upon Recei	eran 2 Alakaran 1
						576.0×4.5					Samples recei	ved via:			Coo.	ler 1 Temp ler 1 Theri	Upon Recei Gorr. Fac	pt.0//oc tor///oc
			Radchem s	sample(s) so	creened (<5	00 cpm):	- YI	N NA			A10491002-14-0883		t Courier	Pace Courie	Coo	ler 1 Corre	ected Temp:	0700
Relinguished by/Company: (Signa	ture) Mindell		Time:	(રુ: ((	Received by	//Company	: (Sign	iture)		U.	Date/Time	e: <b>19_</b> 1		JL LAB USE ON	Com	ments:		
Relinquished by/Company: (Signa	ture)	Date	/Times		Received by	/Company	: (Signa	ture)		10.			Acctnu	New Store Carlotte Space Service	and and	Trin Blank	Received: Y	N - N A
Kol Too	- Pace	- 10	122/4)	305		n	,				Date/Time	1305	Templ Prelog	ate:			eOH TSP O	医内侧皮 医腹泻 医腹泻
Relinquished by/Company: (Signa	ture)	Date	/Time:		Received by	Company	: (Signa	iture)	s		Date/Time	e:	PM:		No	on Conformar YES / NO	nce(s); Page: ) of:	+
		1									1						- " - Establish	<del></del> §

## SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents	12/1	1400	) SMZ				•	
1. Courier: FED EX UPS CLIENT PAGE	CE 🗆	USPS 🗆	OTHER	5. Packing Material:	☐ Bubble Wrap	Bubble	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	No				□None	☐ Other		
(If yes)Seals intact: $\square$ Yes $\square$ No (leave blank	if no seals	were prese	ent)					
3. Thermometer: 123456 ABC DEF				6. Ice Type: Wet	☐ Blue ☐ None	<b>.</b>		
4. Cooler Temperature: 6,7/0.7  Temp should be above freezing to 6°C (Initial/Corrected)				7. If temp. is over 6°C or			☐ Yes	□ No
All	discrepan	cies will be	written out in the o	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)			CHECKED?: exception container with a sep	ling acid/base pres. Have be otions: VOA, coliform, LLHg, ptum cap or preserved with H	O&G, and any	·		
Short Hold Time Analysis (48 hours or less)? Analysis:				I (<2) NaOH (>10) NaOH/Z e to pH recommendations will b				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine (	Check (Total/Amenable/Free	Cyanide)	, , , , , , , , , , , , , , , , , , ,		
Custody Signatures Present?			Headspace Wiscon	sin Sulfide?				
Containers Intact?:			Headspace in VOA See Containter Cou			<u>Present</u>	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:								
	·							
							700.0	
		_ <del></del>						
							_	

## **Sample Container Count**

		SBS DI MeOH (only) BK Kit	• •																						٠,					
		BK	-																											ontainers
COC	i	Kit	1			1	1 .	ı	ı	i	i		ĽШ	1		i	ı	ı	i		i	i :	1 1				DIVERSE DESIGNATION			nance **
Line Item	WGFU	R	DG9 VG9	VOA VIAL HS (>6mm)	VG9U	Deso	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit		Matrix	H2SO4	NaOH/ ZNAc pH >9	NaOH
1	1				İ						·																SZ			
2	V								-												   •									
3																			1										! !	
4													:																	
5																			***************************************								 			
6																* *	-						FRE (1884) & P., 104, 11,98							
7			·																								 			
8						_																								
9	-						,																							
10																***************************************				٠.										
11											-			,																
12																										t 1	 			

Container Codes

	iei oodes				
	Gla	SS			
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 HCI 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
VG9Ü	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	ВР3В	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

	Pla	as	tic / Misc.
-	E	3P4U	125mL unpreserved plastic
-			125mL HNO3 plastic
	E	3P4S	125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

WT	Water	
SL	Solid	
NAL OL	Non-aqueous liquid Oil	-
WP	Wipe	 ae 15 of 15





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
50300938001	A5	Solid	10/20/21 13:00	10/22/21 13:05	
50300938002	A6	Solid	10/20/21 13:15	10/22/21 13:05	
50300938003	A7	Solid	10/20/21 13:30	10/22/21 13:05	



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50300938001	A5	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300938002	A6	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300938003	A7	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50300938001	A5					
EPA 6010	Arsenic	8.8	mg/kg	1.0	10/30/21 02:53	
EPA 6010	Barium	110	mg/kg	1.0	10/30/21 02:53	
EPA 6010	Chromium	15.9	mg/kg	1.0	10/30/21 02:53	
EPA 6010	Lead	17.0	mg/kg	1.0	10/30/21 02:53	
EPA 6010	Lithium	11.0	mg/kg	5.2	10/30/21 02:53	N2
SM 2540G	Percent Moisture	17.6	%	0.10	10/25/21 12:05	N2
50300938002	A6					
EPA 6010	Arsenic	4.2	mg/kg	1.2	10/30/21 02:55	
EPA 6010	Barium	53.4	mg/kg	1.2	10/30/21 02:55	
EPA 6010	Chromium	11.5	mg/kg	1.2	10/30/21 02:55	
EPA 6010	Lead	41.4	mg/kg	1.2	10/30/21 02:55	
EPA 6010	Lithium	10.2	mg/kg	6.1	10/30/21 02:55	N2
SM 2540G	Percent Moisture	22.2	%	0.10	10/25/21 12:06	N2
50300938003	A7					
EPA 6010	Arsenic	4.2	mg/kg	1.2	10/30/21 02:57	
EPA 6010	Barium	94.9	mg/kg	1.2	10/30/21 02:57	
EPA 6010	Chromium	15.4	mg/kg	1.2	10/30/21 02:57	
EPA 6010	Lead	16.4	mg/kg	1.2	10/30/21 02:57	
EPA 6010	Lithium	10	mg/kg	6.2	10/30/21 02:57	N2
SM 2540G	Percent Moisture	25.6	%	0.10	10/25/21 12:06	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Date: 11/01/2021 12:16 PM

Sample: A5	Lab ID: 503	00938001	Collected: 10/20/2	1 13:00	Received: 10	)/22/21 13:05 N	/latrix: Solid	
Results reported on a "dry weigh	t" basis and are adj	usted for p	ercent moisture, sa	mple si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	od: EP/	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	8.8	mg/kg	1.0	1	10/29/21 07:51	10/30/21 02:53	7440-38-2	
Barium	110	mg/kg	1.0	1	10/29/21 07:51	10/30/21 02:53	7440-39-3	
Cadmium	ND	mg/kg	0.52	1	10/29/21 07:51	10/30/21 02:53	7440-43-9	
Chromium	15.9	mg/kg	1.0	1	10/29/21 07:51	10/30/21 02:53	7440-47-3	
Lead	17.0	mg/kg	1.0	1	10/29/21 07:51	10/30/21 02:53	7439-92-1	
Lithium	11.0	mg/kg	5.2	1	10/29/21 07:51	10/30/21 02:53	7439-93-2	N2
Selenium	ND	mg/kg	1.0	1	10/29/21 07:51	10/30/21 02:53	7782-49-2	
Silver	ND	mg/kg	0.52	1	10/29/21 07:51	10/30/21 02:53	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.24	1	10/28/21 09:02	10/28/21 17:01	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	17.6	%	0.10	1		10/25/21 12:05		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Date: 11/01/2021 12:16 PM

Sample: A6 Results reported on a "dry weig	Lab ID: 503 ght" basis and are adj		Collected: 10/20/2				Matrix: Solid	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	od: EP/	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	4.2	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:55	7440-38-2	
Barium	53.4	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:55	7440-39-3	
Cadmium	ND	mg/kg	0.61	1	10/29/21 07:51	10/30/21 02:55	7440-43-9	
Chromium	11.5	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:55	7440-47-3	
Lead	41.4	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:55	7439-92-1	
Lithium	10.2	mg/kg	6.1	1	10/29/21 07:51	10/30/21 02:55	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:55	7782-49-2	
Silver	ND	mg/kg	0.61	1	10/29/21 07:51	10/30/21 02:55	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
·	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	10/28/21 09:02	10/28/21 17:03	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	22.2	%	0.10	1		10/25/21 12:06		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Date: 11/01/2021 12:16 PM

Sample: A7 Results reported on a "dry wei	Lab ID: 503		Collected: 10/20/2				Matrix: Solid	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	110 Preparation Meth	od: EP/	A 3050		•	
	Pace Analytica	l Services -	Indianapolis					
Arsenic	4.2	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:57	7440-38-2	
Barium	94.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:57	7440-39-3	
Cadmium	ND	mg/kg	0.62	1	10/29/21 07:51	10/30/21 02:57	7440-43-9	
Chromium	15.4	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:57	7440-47-3	
Lead	16.4	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:57	7439-92-1	
Lithium	10	mg/kg	6.2	1	10/29/21 07:51	10/30/21 02:57	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 02:57	7782-49-2	
Silver	ND	mg/kg	0.62	1	10/29/21 07:51	10/30/21 02:57	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
•	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	10/28/21 09:02	10/28/21 17:06	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	25.6	%	0.10	1		10/25/21 12:06		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50300938

QC Batch: QC Batch Method: 646645

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

50300938001, 50300938002, 50300938003 Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50300938001, 50300938002, 50300938003

Blank Result Reporting

Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.20 10/28/21 16:02

LABORATORY CONTROL SAMPLE: 2979717

Parameter

Parameter

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury 0.47 0.45 96 80-120 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2979718

0.48

50300485002 Parameter

MS Spike

0.47

MSD Spike Conc.

MSD Result

MS % Rec

113

MSD

116

% Rec Max **RPD** 

RPD Qual

Mercury

Date: 11/01/2021 12:16 PM

Units Result

mg/kg

Conc.

ND

Result 0.58

2979719

MS

0.61

% Rec

Limits

20 75-125

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Date: 11/01/2021 12:16 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300938001, 50300938002, 50300938003

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300938001, 50300938002, 50300938003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

LABORATORY CONTROL SAMPLE:	2979589					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120	N2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591							
			MS	MSD								
	50	0300947002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300938

QC Batch: 646637

Analysis Method: SM 2540G

QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture Pace Analytical Services - Indianapolis Laboratory:

50300938001, 50300938002, 50300938003 Associated Lab Samples:

SAMPLE DUPLICATE: 2979698

50300872009 Dup Max RPD RPD Qualifiers Parameter Units Result Result 15.7 5 N2 Percent Moisture % 15.0

SAMPLE DUPLICATE: 2979699

Date: 11/01/2021 12:16 PM

50300947002 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers 19.7 % Percent Moisture 17.3 13 5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

#### **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**

Date: 11/01/2021 12:16 PM

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.

R1 RPD value was outside control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300938

Date: 11/01/2021 12:16 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300938001	A5	EPA 3050	646596	EPA 6010	647796
50300938002	A6	EPA 3050	646596	EPA 6010	647796
50300938003	A7	EPA 3050	646596	EPA 6010	647796
50300938001	A5	EPA 7471	646645	EPA 7471	647464
50300938002	A6	EPA 7471	646645	EPA 7471	647464
50300938003	A7	EPA 7471	646645	EPA 7471	647464
50300938001	A5	SM 2540G	646637		
50300938002	A6	SM 2540G	646637		
50300938003	A7	SM 2540G	646637		

Pace Analytical*	Submitting a	sample via thi Conditior	F-CUSTO s chain of custoo is found at: http Custody is a Li	ly constitutes a s://info.pacelal	acknowledgme bs.com/hubfs/	ent and accepta	nce of the	ent Pace Term	ns and	LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here							
Company: Mundell and Associates			Billing Info	rmation:							Λ			J Ed adea			
Address: 110 S Downey Ave, India	napolis, IN 4621	.9	110 S	Downey A	ve, Indiana	polis, IN 462	219					ainer Presen	AS are for LAB USE ONLY				
Report To: Luke Johnstone	· · · · · · · · · · · · · · · · · · ·	-	Email To:	'Ljohnstone@mundellassociates.com					** Prese	ervative Types:	(1) nitric acid,	(2) sulfuric ac	id, (3) hydroch	Lab Project Manager:  loric acid, (4) sodium hydroxide, (5) zinc acetate,			
Сору То:		*.	Site Collec 4500	tion Info/A S Hoyt Ave	ddress:	dress: Muncie, Indiana			一(6) meth	nanol, (7) sodiu nonium hydroxi	m bisulfate, (8	) sodium thios	ane, (A) ascorbic acid, (B) ammonium sulfate,				
Customer Project Name/Number: M20032 Muncie Phase II			1	County/City Muncie		Time Zone Collected: [ ]PT [ ]MT [ ]CT [ X ]ET				50016	Analys	es	Baasaa	Lab Profile/Line: Lab Sample Receipt Checklist:			
Phone: 317-630-9060	Site/Facility II	)#;	1/	iviancie	Complian	ce Monitori		X JET	T	1					Custody Seals Present/Intact Y N Custody Signatures Present Y N		
Email: Ljohnstone@mundellassocia Collected By (print):	Purchase Ord	or# :			[ ] Yes	[ ]No			_	<b>a</b>			100000		Collector Signature Present Y N		
Luke Johnstone	Quote #:	=: # :			DW PWS	ID #: ion Code:				6010B					Bottles Intact Y N Correct Bottles Y N		
Collected By (signature);	Turnaround D					ely Packed	on Ice:		Glass (G)	EPA					Sufficient Volume Y N Samples Received on Ice Y N VOA - Headspace Acceptable Y N		
ample Disposal.	Rush: (Expedi			pply) Field Filtered (if applicable):											USDA Regulated Soils Y N.		
	[ ]Same [ ] 2 Day		ext Day		[ ] Yes	[ ]No			o o	Lithium via					Samples in Holding Time Y N Residual Chlorine Present Y N		
] Archive:	[ ] 4 Day				Analysis:		<u> </u>		Plastic (P)	1					Cl Strips: Sample pH Acceptable Y N		
Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL	k below): Drinki ), Wipe (WP), A	ng Water ( ir (AR), Tis	DW), Groun sue (TS), Bio	d Water (G assay (B), V	W), Waster apor (V), O	water (WW)				8 Metals				ibor -	pH Strips: Sulfide Present Y N Lead Acetate Strips:		
Customer Sample ID	Matrix *	Comp / Grab		ted (or ite Start)	Compo	osite End	Res	# of Ctns	Container Type:	al RCRA					LAB USE ONLY: Lab Sample # / Comments:		
			Date	Time	Date	Time	1		Cont	Total					Sit Sair		
A5	SL	Grab	10/20	13:00				1	G	X			4441.77				
A6	SL	Grab	10/20	13:15				1	G	X			1.96.0		A Comment of the Comm		
A7	SL	Grab	10/20	13:30				1	G	X					- 66		
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											7		200				

N. NA Therm ID#:

Cooler 1 Temp Upon Receipt A 76C

Cooler 1 Therm Corr. Factor 60 oc

Cooler 1 Corrected Temp: 6 70C Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA FEDEX UPS Client Courier Pace Courier Received by/Company: (Signature) Date/Time: MTJL LAB USE ONLY Table #: Relinquished by/Company: (Signature) Received by/Company: (Signature) Acctnum: Trip Blank Received: Y N NA Template: HCL MeOH TSP Other Prelogin: Relinquished by/Company: (Signature) Date/Time: Received by Company: (Signature) Date/Time: PM: Non Conformance(s): Page: \_\_ PB: YES / NO of:

## SAMPLE CONDITION LIBON DECEIPT FORM

Pace Analytical*	LL CON	DITION	OPON RECEIPT FORM				
Date/Time and Initials of person examining content	is:	14	100 SMK		•		
1. Courier:  FED EX UPS CLIENT PA	CE 📙	USPS [	OTHER5. Packing Material:	e Wrap	Bubbl	e Rags	
2. Custody Seal on Cooler/Box Present: Yes	No		□None		☐ Other	-	
(If yes)Seals Intact:	k if no seals	were pres	ent)		— Quiei		
3. Thermometer: 1 2 3 4 5 6 A B C (D)E I	F		6. Ice Type: Wet Blue	None			
4. Cooler Temperature: C.7 70. 7 Temp should be above freezing to 6°C (Initial/Corrected)			7. If temp. is over 6°C or under 0°C, v			: 🗌 Yes	□ No
Al	l discrepand	cies will be	written out in the comments section below.		<del></del>		
	Yes	No			Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and all container with a septum cap or preserved with HCl.	ny			
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 count form	ne container			/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)		Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine Check (Total/Amenable/Free Cyanide)				/
Custody Signatures Present?			Headspace Wisconsin Sulfide?				
Containers Intact?:	/		Headspace in VOA Vials (>6mm): See Containter Count form for details		<u>Present</u>	Absent	No VOA Vials Se
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID			Trip Blank Present?				1
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:				
COMMENTS:							<u></u>
		· · · · · · · · · · · · · · · · · · ·					
						·	

COC	PAGE	1	of	
			•	

# **Sample Container Count**

SBS
DI
MeOH
(only)
BK
Kit

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

COC	I		1	1	I _	ı _	1	1	ı		1		1 11			i	1	1	,											conforn	
Line	WGFU	_	ල් ල්	VOA VIAL HS (>6mm)	VG9U	റടാമ	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	BP3B	BP3Z	ССЗН	Syringe Kit			Matrix	HNO3/	NaOH/	N-OU
Item	≥	R		8 ₹ &	Ž	ă	L ŏ	Lĕ	Ĭĕ	¥	\ <u>\\</u>	¥	A	AG	ద	BB	ВВ	H H	B B	ВÞ	ВР	ВР	ВР	8	Ş. Ş.			\ <u>≅</u>	pH <2	2NAC 9< Hq	NaOH pH>10
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Container Codes

	Glas	SS			
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	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S		ВР3В	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 H2SO4 plastic
GN	General	AG3C			250mL NaOH, ZnAc plastic

PI	as	tic / Misc.	
	BP4U	125mL unpreserved plastic	
	BD4N	125ml HNO3 plastic	7 N

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

Syringe Kit LL Cr+6 sampling kit

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

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





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300940001	A8	Solid	10/20/21 13:55	10/22/21 13:05



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50300940001	A8	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
- INICITION	- arameters		Ullits	_ Treport Limit	- Allalyzeu	- Qualifiers
50300940001	A8					
EPA 6010	Arsenic	5.0	mg/kg	1.1	10/30/21 02:59	
EPA 6010	Barium	72.9	mg/kg	1.1	10/30/21 02:59	
EPA 6010	Chromium	16.5	mg/kg	1.1	10/30/21 02:59	
EPA 6010	Lead	76.1	mg/kg	1.1	10/30/21 02:59	
EPA 6010	Lithium	9.3	mg/kg	5.7	10/30/21 02:59	N2
SM 2540G	Percent Moisture	24.7	%	0.10	10/25/21 12:06	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Date: 11/01/2021 12:17 PM

Sample: A8	Lab ID: 503	00940001	Collected: 10/20/2	1 13:55	Received: 10	)/22/21 13:05 N	/latrix: Solid	
Results reported on a "dry weight	t" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	5.0	mg/kg	1.1	1	10/29/21 07:51	10/30/21 02:59	7440-38-2	
Barium	72.9	mg/kg	1.1	1	10/29/21 07:51	10/30/21 02:59	7440-39-3	
Cadmium	ND	mg/kg	0.57	1	10/29/21 07:51	10/30/21 02:59	7440-43-9	
Chromium	16.5	mg/kg	1.1	1	10/29/21 07:51	10/30/21 02:59	7440-47-3	
Lead	76.1	mg/kg	1.1	1	10/29/21 07:51	10/30/21 02:59	7439-92-1	
Lithium	9.3	mg/kg	5.7	1	10/29/21 07:51	10/30/21 02:59	7439-93-2	N2
Selenium	ND	mg/kg	1.1	1	10/29/21 07:51	10/30/21 02:59	7782-49-2	
Silver	ND	mg/kg	0.57	1	10/29/21 07:51	10/30/21 02:59	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	10/28/21 09:02	10/28/21 17:08	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	24.7	%	0.10	1		10/25/21 12:06		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50300940

QC Batch:

646645

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK: 2979716

50300940001

Matrix: Solid

Associated Lab Samples:

50300940001

Parameter

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

mg/kg

ND

0.20 10/28/21 16:02

LABORATORY CONTROL SAMPLE: Parameter

2979717

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Date: 11/01/2021 12:17 PM

Units mg/kg

0.47

0.45

96

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2979718 MS

MSD Spike

MS

2979719

MSD

MSD

% Rec

Max **RPD** 

50300485002 Units Result

mg/kg

ND

0.47

Result

% Rec

Limits

RPD

Mercury

Spike Conc.

Conc. 0.48

Result 0.58 0.61 % Rec

MS

113

116

75-125

Qual 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Date: 11/01/2021 12:17 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300940001

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300940001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
_ead	mg/kg	48.7	47.1	97	80-120	
_ithium	mg/kg	48.7	48.8	100	80-120 N	<b>1</b> 2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591							
	5	0300947002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300940

QC Batch:

QC Batch Method:

646637

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300940001

Parameter

SAMPLE DUPLICATE: 2979698

50300872009 Result

Dup Result

RPD RPD

Qualifiers

Percent Moisture

Units %

15.7

15.0

5 N2

SAMPLE DUPLICATE: 2979699

Date: 11/01/2021 12:17 PM

50300947002 Result

Dup Result

**RPD** 

Max **RPD** 

Max

Qualifiers

Parameter Percent Moisture

Units %

19.7

17.3

13

5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

#### **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**

Date: 11/01/2021 12:17 PM

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.

R1 RPD value was outside control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300940

Date: 11/01/2021 12:17 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300940001	A8	EPA 3050	646596	EPA 6010	647796
50300940001	A8	EPA 7471	646645	EPA 7471	647464
50300940001	A8	SM 2540G	646637		

Pace Analytical"	CHAIN-OF-CUSTODY Analytical Request Document  Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms ar  Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf  Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields						and		LAB USE	ONLY- Affix	AND THE SHAPE OF SHAPE	Login Label I JL Log-in Nur SOM	MACHINE PROPERTY	t Pace Workorder Number or		
Company: Mundell and Associates,		CHAIN-UI-C	Billing Info		Litt - Comple	.c. an icicval	, netus				ΔΙ	I BOID	DUTLINE	U V V D ARFA	Sare fo	or LAB USE ONLY
Address: 110 S Downey Ave, Indian			110 S	Downey Av	e, Indianapo	olis, IN 4622	19					ner Preserva				oject Manager:
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella:	ssociates.co	om.		-		ervative Types: (	1) nitric acid, (2	2) sulfuric acid	, (3) hydrochlo	ric acid, (4)	sodium hydroxide, (5) zinc acetate,
Сору То:			Site Collect	tion Info/Ac S Hoyt Ave	ddress:	Muncie, Ir	ndiana				anol, (7) sodium onium hydroxid	e, (D) TSP, (U)	Unpreserved,			bic acid, (B) ammonium sulfate, offie/Lines
Customer Project Name/Number: M20032 Muncie Phase II				County/City Muncie		Zone Colle		()ET				Analyse	S		Lab Sa Custoo	ample Receipt Checklist: dy Seals Present/Intact Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellassocia	Site/Facility ID ites.com	#:			Complianc [ ] Yes	e Monitorir [ ] No	ng?			<b>m</b>					Collec	dy Signatures Présent Y N NA ctor Signature Présent Y N NA es Intact Y N NA
Collected By (print): Luke Johnstone	Purchase Order Quote #:	r#:			DW PWS II	on Code:			(6	A 6010B					Correc Suffic	et Bottles Y N NA cient Volume Y N NA
Collected by (signature):	Turnaround Da				[x] Yes	ely Packed o			Glass (G)	via EPA					VOA - USDA F	Headspace Acceptable Y N NA Regulated Soils Y N NA
Sample Disposal: [A] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: (Expedit [ ] Same Da [ ] 2 Day [ [ ] 4 Day [	ay [ ] N ] 3 Day ] 5 Day	ext Day		[ ] Yes Analysis: _	ed (if applic			Type: Plastic (P) or G	8 Metals + Lithium via					Residi Cl Sti Sample pH Sti	e pH Acceptable Y N NA
* Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL							,		Type: P	A 8 Me					Lead I	Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab	1	ted (or ite Start) Time	Compo Date	site End	Res Cl	# of Ctns	Container	Total RCRA						SE ONLY: ample # / Comments:  WW ZUR
A8	SL	Grab	10/20	13:55				1	G	X.					$-\mathcal{X}$	
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0 1 /C 11C T	(5) - 11-1							Deleganis			SHORT HOLD	S ADDECT VIEW	701-1	V N N	7.	AB Sample Temperature Info:
Customer Remarks / Special Condi Total RCRA 8 Metals + Lithium	tions / Possible F	nazards:		aterial Use	Wet d: creened (<	The same of the sa		None		Stephin Stephin SA	Lab Tracking Samples rece	#: lived via:			T T C	emp Blank Received: N NA herm ID#: cooler 1 Temp Upon Receipt: 70C cooler 1 Therm Corr. Factor 7.0C cooler 1 Corrected Temp: 2.70C
Relinohished by/Company: (Signat	ure)	Dat	e/Time:	- RJT	Re <u>ceived</u> b		100			o.	Date/Tin			JL LAB USE C	C	Comments:
Relinquished by Company: (Signat	^ '	Dat	e/Time:		Received b	y/Company	y: (Signa	ture)			Date/Tin	ne:	Acctinu Templ	ım: "		Trip Blank Received; Y. N. NA HCL MeOH TSP Other
Louka	pace	<u> </u>	122121	1305	Min	My				<u> </u>			Prelog	in:	-	Non Conformance(s): Page:
Relinquished by/Company: (Signat	ure) <sup>r</sup>	Dat	e/Time:		Received b	y/Company	y: (Signa	ture)			Date/Tir	ne:	PM: PB:			Non Conformance(s): Page:

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

F-IN-Q-290-rev.21, 02Feb2021				DT CODIA				
Pace Analytical*	1/1/		UPON RECEI	-				
Date/Time and Initials of person examining contents		ICDC []	OTHER		<b>-</b>			
1. Courier: FED EX UPS CLIENT PAGE		JSPS 📙	OTHER	5. Packing Material:	☐ Bubble Wrap ☐ None	Bubble	Bags	
2. Custody Seal on Cooler/Box Present:  Yes	✓ No				None	☐ Other		<del></del>
(if yes)Seals Intact: $\Box$ Yes $\Box$ No (leave blank	if no seals	were prese	ent)			*		
3. Thermometer: 1 2 3 4 5 6 A B C DE F				6. Ice Type: Wet	☐ Blue ☐ None			
4. Cooler Temperature:	7			7. If temp. is over 6°C or	under 0°C, was the PM	notified?:	☐ Yes	□ No
All	discrepan	cies will be	e written out in the	comments section below.			····	<del></del>
	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)			CHECKED?: exce	ding acid/base pres. Have be ptions: VOA, coliform, LLHg, eptum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:			HNO3 (<2) H2SC	4 (<2) NaOH (>10) NaOH/2 ce to pH recommendations will l	ZnAc (>9) be noted on the container			
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine	Check (SVOC 625 Pest/PCE	3 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine	Check (Total/Amenable/Free	e Cyanide)			
Custody Signatures Present?			Headspace Wisco	nsin Sulfide?				
	/		Headspace in VO	A Vials (>6mm): ount form for details		<u>Present</u>	<u>Absent</u>	No VOA Vials Ser
Containers Intact?: Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID			Trip Blank Presen	t?				
Extra labels on Terracore Vials? (soils only)			Trip Blank Custoo	y Seals?:		<u> </u>		
COMMENTS:								
								, <u></u>
		-						
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						<del> </del>		

# **Sample Container Count**

DI MeOH (only) BK

\*\* Place a RED dot on containers

that	are	out	of	conformance	

		Kit																			_					 _		C Out OI	-	the state of the state of
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	ОСЭП	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	врзг	BP3S	BP3B	BP3Z	CG3H	Syringe Kit		Matr	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
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Container Codes

	Glas	SS			
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	
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		AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	
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	
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

M	as	tic / iviisc.		
	BP4U	125mL unpreserved plastic		
	DDAN	125mL HNO3 plastic	•	

BP4N 125mL HNO3 plastic
BP4S 125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

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





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300942001	A9	Solid	10/20/21 14:45	10/22/21 13:05
50300942002	A10	Solid	10/20/21 14:55	10/22/21 13:05



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50300942001	A9	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300942002	A10	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
50300942001	A9						
EPA 6010	Arsenic	4.8	mg/kg	1.6	10/30/21 03:02		
EPA 6010	Barium	114	mg/kg	1.6	10/30/21 03:02		
EPA 6010	Chromium	16.3	mg/kg	1.6	10/30/21 03:02		
EPA 6010	Lead	217	mg/kg	1.6	10/30/21 03:02		
EPA 6010	Lithium	15.3	mg/kg	7.8	10/30/21 03:02	N2	
SM 2540G	Percent Moisture	40.3	%	0.10	10/25/21 12:06	N2	
50300942002	A10						
EPA 6010	Arsenic	5.0	mg/kg	1.2	10/30/21 03:04		
EPA 6010	Barium	84.9	mg/kg	1.2	10/30/21 03:04		
EPA 6010	Chromium	15.0	mg/kg	1.2	10/30/21 03:04		
EPA 6010	Lead	24.6	mg/kg	1.2	10/30/21 03:04		
EPA 6010	Lithium	10.6	mg/kg	5.8	10/30/21 03:04	N2	
SM 2540G	Percent Moisture	20.5	%	0.10	10/25/21 12:06	N2	



Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Date: 11/01/2021 12:17 PM

Sample: A9	Lab ID: 503	00942001	Collected: 10/20/2	1 14:45	Received: 10	)/22/21 13:05 N	/latrix: Solid		
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytica	l Services -	Indianapolis						
Arsenic	4.8	mg/kg	1.6	1	10/29/21 07:51	10/30/21 03:02	7440-38-2		
Barium	114	mg/kg	1.6	1	10/29/21 07:51	10/30/21 03:02	7440-39-3		
Cadmium	ND	mg/kg	0.78	1	10/29/21 07:51	10/30/21 03:02	7440-43-9		
Chromium	16.3	mg/kg	1.6	1	10/29/21 07:51	10/30/21 03:02	7440-47-3		
Lead	217	mg/kg	1.6	1	10/29/21 07:51	10/30/21 03:02	7439-92-1		
Lithium	15.3	mg/kg	7.8	1	10/29/21 07:51	10/30/21 03:02	7439-93-2	N2	
Selenium	ND	mg/kg	1.6	1	10/29/21 07:51	10/30/21 03:02	7782-49-2		
Silver	ND	mg/kg	0.78	1	10/29/21 07:51	10/30/21 03:02	7440-22-4		
7471 Mercury	Analytical Meth	od: EPA 74	71 Preparation Meth	nod: EP	A 7471				
	Pace Analytica	l Services -	Indianapolis						
Mercury	ND	mg/kg	0.35	1	10/28/21 09:09	10/28/21 17:16	7439-97-6		
Percent Moisture	Analytical Meth	od: SM 254	10G						
	Pace Analytica	l Services -	Indianapolis						
Percent Moisture	40.3	%	0.10	1		10/25/21 12:06		N2	



Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Date: 11/01/2021 12:17 PM

Sample: A10	Lab ID: 503	00942002	Collected: 10/20/2	21 14:55	Received: 10	0/22/21 13:05 N	fatrix: Solid		
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple si	ize and any dilu	tions.			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytica	l Services -	Indianapolis						
Arsenic	5.0	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:04	7440-38-2		
Barium	84.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:04	7440-39-3		
Cadmium	ND	mg/kg	0.58	1	10/29/21 07:51	10/30/21 03:04	7440-43-9		
Chromium	15.0	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:04	7440-47-3		
Lead	24.6	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:04	7439-92-1		
Lithium	10.6	mg/kg	5.8	1	10/29/21 07:51	10/30/21 03:04	7439-93-2	N2	
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:04	7782-49-2		
Silver	ND	mg/kg	0.58	1	10/29/21 07:51	10/30/21 03:04	7440-22-4		
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP/	A 7471				
	Pace Analytica	l Services -	Indianapolis						
Mercury	ND	mg/kg	0.25	1	10/28/21 09:09	10/28/21 17:18	7439-97-6		
Percent Moisture	Analytical Meth	nod: SM 254	10G						
	Pace Analytica	l Services -	Indianapolis						
Percent Moisture	20.5	%	0.10	1		10/25/21 12:06		N2	



Project:

M20032 Muncie Phase II

Pace Project No.:

50300942

QC Batch: QC Batch Method: 647192

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300942001, 50300942002

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

Parameter

50300942001, 50300942002

Blank Result Reporting

Limit

Analyzed

Qualifiers

Mercury

Mercury

Units mg/kg

ND

0.20 10/28/21 17:11

LABORATORY CONTROL SAMPLE:

Parameter

2981841

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Date: 11/01/2021 12:17 PM

Units mg/kg

0.5

0.52

103 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2981842

MSD

50300947002 Parameter Units Result

mg/kg

ND

Spike Conc.

MS MSD Result

2981843

MS % Rec

MSD % Rec % Rec Limits **RPD** 

Max RPD

MS

Spike Conc.

0.65

0.66

Result 0.68 0.71

104

105

75-125

Qual 20 3

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Date: 11/01/2021 12:17 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300942001, 50300942002

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300942001, 50300942002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

LABORATORY CONTROL SAMPLE:	2979589					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120 I	<b>N</b> 2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591							
Parameter	50 Units	0300947002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec	RPD	Max RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12		
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300942

QC Batch:

646637

Analysis Method:

SM 2540G

QC Batch Method: SM 2540G Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300942001, 50300942002

SAMPLE DUPLICATE: 2979698

Parameter

50300872009 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Units %

15.7

15.0

5 N2

SAMPLE DUPLICATE: 2979699

Date: 11/01/2021 12:17 PM

50300947002 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Parameter Percent Moisture

Units %

19.7

17.3

13

5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

#### **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**

Date: 11/01/2021 12:17 PM

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.

R1 RPD value was outside control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300942

Date: 11/01/2021 12:17 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300942001	A9	EPA 3050	646596	EPA 6010	647796
50300942002	A10	EPA 3050	646596	EPA 6010	647796
50300942001	A9	EPA 7471	647192	EPA 7471	647468
50300942002	A10	EPA 7471	647192	EPA 7471	647468
50300942001	A9	SM 2540G	646637		
50300942002	A10	SM 2540G	646637		

CHAIN-OF-CUSTODY Analytical Request Document  Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and											LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or							
Pace Analytical*	Submitting a s	Conditions	ns found at: http:	ps://info.pacelat	abs.com/hubfs/pa	pas-standard-te	terms.pdf		is and			1.12	MY.	TJL Log-in Nur	mber Here			
Company: Mundell and Associates	s Inc.	Chain-oi-c	Custody is a LI Billing Info		IENT - Compi	ete all releva	±nt fields			-	1	クリノ	ا ب با	1. IL/		a da albandar Arabandary		
Address: 110 S Downey Ave, India		19		S Downey Av	ve. Indiana	nolis. IN 46	219				AL	LBOLD	OUTLINE	ED AREA	S are for L	AB USE O	NLY	
										SOFFER	Contai	iner Preserva	ative Type **	# 	Lab Project	Manager:		
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	associates.c	com			** Prese	ervative Types: (3	1) nitric acid, (	2) sulfuric acid	d (3) hydrochic	oric acid, (4) sodiu	m bydrovide. (5)	Tipo acetate	
Сору То:				ction Info/Ac						(6) meth	hanol, (7) sodium	n bisulfate, (8)	sodium thiosu	ulfate, (9) hexar	ne, (A) ascorbic a	cid, (B) ammoniu	ım sulfate,	
			4300/	0/4400 BLK S	S Hoyt Ave					(C) amm	monium hydroxide			(O) Other		7222234	and the second of the second	
Customer Project Name/Number: M20032 Muncie Phase II			1	County/City Muncie	•	ne Zone Coll			-			Analyse	÷S		Lab Profile/ Lab Sampl	Line: e Receipt C	hecklist:	
Phone: 317-630-9060	Site/Facility ID	) #:	] IIV /	Muncle		PT [ ]MT [ ice Monitorii		X ]ET	1.	4 1				500 (1) (1) 11 (1) (1) 15 (1) (1)	Custody S	Seals Presen	t/Intact Y	
Email: Ljohnstone@mundellassocia					[ ] Yes	[ ] No							10.0			ignatúres P Signature		
Collected By (print): Luke Johnstone	Purchase Orde	er#:			DW PWS II	ID #:	•		1 .	6010B					Bottles I Correct B	ntact	У	N NA N NA
Colleged By (signature);	Quote #:	` Poquit	4.		DW Location			<u> </u>	1 6	09 4					Sufficien	it Volume	F- Y	N NA
Tale Metatore	Turnaround Da	ate Kequire	.ad:		Immediate [x] Yes	tely Packed o			Glass (G)	а ЕРА						Received on- Idspace Acce		N.NA N.NA
Sample Disposal:	Rush: (Expedit					red (if applic				8 Metals + Lithium via					USDA Regu	lated Soils	Y	N NA
[ 🔀 Dispose as appropriate	1	Day [ ] Ne			[ ] Yes	[ ] No	-	ė	o (	喜	7000				Residual	n Holding I Chlorine Pro	TO THE RESIDENCE OF THE PARTY O	n na n na
Archive:	[ ]2 Day [								ic (P	151					Cl Strips			
[ ] Hold:	[ ] 4 Day [				Analysis:				lasti	tals					pH Strips	•	A Park Tiller	N NA
* Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL	(below): Drinkin	ng Water (□	DW), Groun	d Water (G	W), Wastew	vater (WW)	),		Type: Plastic (P)	Me					Sulfide P Lead Acet	resent ate Strips:		N NA
Product (P), Soil/Solid (SL), Oil (OL	J, Wipe (Wr), An	Comp/	<del></del>		apor (V), Ot	her (OT)	7 2 -	T		RA 8								
Customer Sample ID	Matrix *	Grab	1	cted (or site Start)	Compo	osite End	Res Cl	# of Ctns	ainer	Total RCRA					LAB USE-O Lab Sampl	NLY: e # / Commen	ńtsi	
	1	1 - '	Date	Time	Date	Time	1 . ,	Ciris	Container	Tota					ر مر ا	SCUR		
A9	SL	Grab	10/20	14:45			+	1		$+$ $\mathbf{x}$ $+$		\$45500 \$1565			1/11	/ UCU t		
A10	SL	Grab	10/20	14:55			+	1		x				(SUBSECTION OF THE PROPERTY OF	14/2			
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Customer Remarks / Special Conditi	ions / Possible F	Hazards:	Type of Ice	· Used:	Wet	Blue D	Dry 1	None			SHORT HOLDS I	ODESENT (<	79 hours)	V N N/	△ LAB Sa	mple Tempera	ture Info:	
Total RCRA 8 Metals + Lithium			1.42.000	aterial Used:	CALL CONTRACT OF SERVICE					etio Reinitanto i por Por	Lab Tracking #:		IZ hours)	i i i i i i i i i i i i i i i i i i i	Temp I	Blank Receiv	wed: 🙆 N	N NA
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			Radchem s	sample(s) scr	reened (<5/	00 cpm);	v N	NΔ		- T	Samples receive	30000			Coole	r 1 Therm Co	orr. Factor	r <b>o.o</b> oc
Date - John of hard and Signature											FEDEX	JPS Client	Courier	Pace Courie	r Coole Commen	r 1 Correcte nts:	ed Temp: <u>v</u>	-2°C م
Relinquished by/Company: (Signatu	ure) Marslell	Date/	122/21	1211	Received by	/Company:	: (Signati	ure)	00	بد	Date/Time:		Martin Company Company (N. 1822)	L LAB USE ON	<u>JLY</u>			
Relinquished by Company: (Signatu	ure)		/29 21 e/Time:		Received by	v/Company	· (Signa)	ture)	1		/ <b>D/22</b>		Table #: Acctnur	A Part of the state of the		- NUMBER		
					JIE)			Date/Time:	1818	Templat			Trip Blank Rece HCL MeOH	eived: Y N N I TSP Other	32 S. C. S. B. W 1			
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											1		PB:			YES / NO	of: <b>l</b>	

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining content	s: (M)	1 140	S SMK					
<ol> <li>Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PA</li> <li>Custody Seal on Cooler/Box Present: ☐ Yes</li> </ol>		JSPS 🗆	OTHER	5. Packing Material:	- □ Bubble Wrap □ None	Bubble	J	
(If yes)Seals Intact:  Yes  No (leave blank	,	were prese	ent)		∟None	☐ Other		
3. Thermometer: 123456 ABC DEF	<b>:</b>			6. Ice Type: Wet	☐ Blue ☐ None			
4. Cooler Temperature: 0.7/0. Temp should be above freezing to 6°C (Initial/Corrected)	1_			7. If temp. is over 6°C or u	nder 0°C, was the PM	notified?:	☐ Yes	□ No
All	discrepand	ies 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)			CHECKED?: exception container with a se	ling acid/base pres. Have bee otions: VOA, coliform, LLHg, o ptum cap or preserved with HO	D&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:				4 (<2) NaOH (>10) NaOH/Zr se to pH recommendations will be				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine (	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine (	Check (Total/Amenable/Free	Cyanide)			
Custody Signatures Present?			Headspace Wiscon	sin Sulfide?				
Containers Intact?:			Headspace in VOA See Containter Cou			<u>Present</u>	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:								
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SBS
DI
MeOH
(only)
BK

\*\* Place a RED dot on containers

		conform		**
×	LIMO2/	NaOH	*********	_

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COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	nesa	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	врзв	BP3Z	свзн	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
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Container Codes

Contan	lei Codes				
	Gla	SS			
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

	r	as'	tic / iviisc.	
		BP4U	125mL unpreserved plastic	
		BP4N	125mL HNO3 plastic	
_		BP4S	125mL H2SO4 plastic	

1		
	Syringe Kit	LL Cr+6 sampling kit
	Symber Air	LE OF O Sampling Kit

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

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





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







## **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300944001	A11	Solid	10/20/21 15:25	10/22/21 13:05



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
50300944001	A11	EPA 6010	JPK	8	PASI-I	
		EPA 7471	DDA	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Lab Sample ID Method	Client Sample ID Parameters	Result	esult Units		Analyzed	Qualifiers
50300944001	A11					
EPA 6010	Arsenic	5.2	mg/kg	1.1	10/30/21 03:10	
EPA 6010	Barium	163	mg/kg	1.1	10/30/21 03:10	
EPA 6010	Chromium	17.8	mg/kg	1.1	10/30/21 03:10	
EPA 6010	Lead	21.3	mg/kg	1.1	10/30/21 03:10	
EPA 6010	Lithium	11.9	mg/kg	5.5	10/30/21 03:10	N2
SM 2540G	Percent Moisture	21.8	%	0.10	10/25/21 12:07	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Date: 11/01/2021 12:17 PM

Sample: A11	Lab ID: 503	00944001	Collected: 10/20/2	1 15:25	Received: 10	)/22/21 13:05 N	fatrix: Solid						
Results reported on a "dry we	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual					
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050												
	Pace Analytica	I Services -	Indianapolis										
Arsenic	5.2	mg/kg	1.1	1	10/29/21 07:51	10/30/21 03:10	7440-38-2						
Barium	163	mg/kg	1.1	1	10/29/21 07:51	10/30/21 03:10	7440-39-3						
Cadmium	ND	mg/kg	0.55	1	10/29/21 07:51	10/30/21 03:10	7440-43-9						
Chromium	17.8	mg/kg	1.1	1	10/29/21 07:51	10/30/21 03:10	7440-47-3						
Lead	21.3	mg/kg	1.1	1	10/29/21 07:51	10/30/21 03:10	7439-92-1						
Lithium	11.9	mg/kg	5.5	1	10/29/21 07:51	10/30/21 03:10	7439-93-2	N2					
Selenium	ND	mg/kg	1.1	1	10/29/21 07:51	10/30/21 03:10	7782-49-2						
Silver	ND	mg/kg	0.55	1	10/29/21 07:51	10/30/21 03:10	7440-22-4						
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	od: EP	A 7471								
	Pace Analytica	l Services -	Indianapolis										
Mercury	ND	mg/kg	0.26	1	10/28/21 09:09	10/28/21 17:25	7439-97-6						
Percent Moisture	Analytical Meth	nod: SM 25	40G										
	Pace Analytica	l Services -	Indianapolis										
Percent Moisture	21.8	%	0.10	1		10/25/21 12:07		N2					



Project:

M20032 Muncie Phase II

Pace Project No.:

50300944

QC Batch: QC Batch Method: 647192

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300944001

METHOD BLANK:

Matrix: Solid

Associated Lab Samples: 50300944001

Blank Units Result Reporting Limit

0.52

Qualifiers Analyzed

Mercury

Mercury

mg/kg

Units

mg/kg

ND

0.20 10/28/21 17:11

LABORATORY CONTROL SAMPLE: Parameter

Parameter

2981841

Spike Conc.

0.5

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2981842

50300947002

Units

mg/kg

MS

MSD Spike Conc.

MS MSD Result

MS % Rec

MSD % Rec

% Rec Limits **RPD** 

Max RPD

Parameter Mercury

Result

Spike Conc.

0.66

0.71

104

105

Qual

Date: 11/01/2021 12:17 PM

ND 0.65 Result 0.68

2981843

103

75-125

20 3

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Date: 11/01/2021 12:17 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300944001

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

LABORATORY CONTROL SAMP	PLE: 2979589	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	% Rec	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120 N	<b>√</b> 12
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591							
	5	0300947002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300944

QC Batch:

646637

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300944001

Parameter

SAMPLE DUPLICATE: 2979698

50300872009 Result

Dup

Max

Qualifiers

Percent Moisture

Units

15.7

Result 15.0

RPD

5 N2

SAMPLE DUPLICATE: 2979699

Date: 11/01/2021 12:17 PM

50300947002 Result

19.7

Dup Result

**RPD** 

RPD

Max **RPD** 

Qualifiers

Parameter Percent Moisture

Units %

%

17.3

13

5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

#### **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**

Date: 11/01/2021 12:17 PM

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.

R1 RPD value was outside control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300944

Date: 11/01/2021 12:17 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300944001	A11	EPA 3050	646596	EPA 6010	647796
50300944001	A11	EPA 7471	647192	EPA 7471	647468
50300944001	A11	SM 2540G	646637		

1	Pace Analytica
anv:	Mundell and Ac

# **CHAIN-OF-CUSTODY Analytical Request Document**

Pace Analytical*	Submitting a	Condition	s chain of custo is found at: http	nain of custody constitutes acknowledgment and acceptance of the Pace Terms and pund at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf stody is a LEGAL DOCUMENT - Complete all relevant fields							MTJL Log-in Number Here  AND 1944					
Company: Mundell and Associates	, inc.	Chair. Or		ormation:	VICIAL - COLLED	iete ali relevi	ant neius		***************************************		ΛI		9W 1	-     -	a faulandict or	
Address: 110 S Downey Ave, India	napolis, IN 4621	.9	110 9	S Downey A	ve, Indiana	oolis, IN 462	219				ALL BOLD OUTLINED AREAS are for LAB USE ONLY  Container Preservative Type **  Lab Project Manager:					
Report To: Luke Johnstone			Email To:	Ljohnstone	e@mundella	associates.c	om	. '		U ** Presi	40 F.Sh.	2 March			ic acid, (4) sodium hydroxide, (5) zi	inc accepte
Сору То:		· ·	1	tion Info/A						(6) metl		n bisulfate, (8) s	odium thiosu	lfate, (9) hexan	e, (A) ascorbic acid, (B) ammonium	
Customer Project Name/Number:		- 2 <sup>1</sup>		W Fuson R County/Cit	manaic, maiaila				CHARACTER	Stronger	Analyse		Lab Profile/Line: Lab Sample Receipt Checklist:			
M20032 Muncie Phase II Phone: 317-630-9060	les to the to		IN /	Muncie		T[]MT		X]ET	,	1					Custody Seals Present	acklist: /Intact Y N NA
rnone: 317-650-5060 Email: Ljohnstone@mundellassocia	Site/Facility ID	) #:			1 .	ce Monitori	ing?								Custody Signatures Pr	
Collected By (print):	<del> </del>		***************************************		[ ] Yes	[ ] No			4.	. a.					Collector Signature P Bottles Intact	resent Y N NA Y N NA
Luke Johnstone	Purchase Orde Quote #:	er#:		DW PWS ID #: DW Location Code:						000					Correct Bottles	Y-N-NA
Collected By (signature)	Turnaround D	ate Requir	ed:	Immediately Packed on Ice: © [x] Yes [ ] No						a EPA 6010B					Sufficient Volume Samples Received on To VOA - Headspace Accep	
sample Disposal:	Rush: (Expedi	te Charges	(vlage)			red (if appli	cable):	<del></del>	Glass	v.	7.4				USDA Regulated Soils	Y N NA
Dispose a appropriate	[ ]Same D				[ ] Yes	[ ] No			5	Lithium					Samples in Holding Tir Residual Chlorine Pre	
Return	[ ]2 Day		• • •			1 2 . , .			(a)	書					Cl Strips:	
] Archive: ] Hold:	[ ]4 Day	[ ]5 Day			Analysis: _			<u>.                                    </u>	Plastic (P)	90 K # 10 S					Sample pH Acceptable pH Strips:	Y N NA
Matrix Codes (Insert in Matrix box	below): Drinkii	ng Water (	DW), Grour	nd Water (G	W). Wastev	vater (WW	).		Pla	8 Metals					Sulfide Present	Y. N. NA
Product (P), Soil/Solid (SL), Oil (OL	), Wipe (WP), A	ir (AR), Tiss	sue (TS), Bio	assay (B), V	apor (V), O	ther (OT)	"		ype	88					Lead Acetate Strips:	
ustomer Sample ID	Matrix *	Comp / Grab	1	ted (or site Start)	Compo	site End	Res	# of Ctns	Container 7	al RCRA					LAB USE ONLY: Lab Sample # / Comment	
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Customer Remarks / Special Conditi Total RCRA 8 Metals + Lithium	ons / Possible F	iazards:	Type of Ice Packing Ma	Used: aterial Used	Wet	Blue [	Dry .	None .			SHORT HOLDS  Lab Tracking #  Samples receiv		2 hours) :	Y N N/A	Temp Blank Receive Therm ID#: Cooler 1 Temp Upor Cooler 1 Therm Co	ed: (y) N NA n Receipt O OC rr. Factor O OC
olioquish ed b./C			Radchem s									10.02302.02121.0000.000.000		Pace Courier	Cooler 1 Corrected Comments:	i Temp: <u>C. Z</u> oC
telinguished by/Company: (Signatu	Mondell	10	/Time: 【22】 と		Received by	\ <u>_</u>	₹~		P	oc_	Date/Time	2/2(10)	MTJ Table #	L LAB USE ON		
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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

	LE CON	DITION	UPON RECEI	PT FORM				
Pace Analytical  Date/Time and Initials of person examining contents	s: (b)	14cr	5 SMC			•		
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PA	CE 🗆	USPS 🗆	OTHER	5. Packing Material:	□ Pubble Ween	0	- D	
2. Custody Seal on Cooler/Box Present: Yes	/		•	5. Packing Waterial.	☐ Bubble Wrap ☐None	Other		
(If yes)Seals Intact:    Yes    No (leave blank		WOTO Proce			∟INOne	⊔ Otner		
3. Thermometer: 123456 ABC (DEF		were prese		6. Ice Type: Wet				
4. Cooler Temperature: ()-1/6- Temp should be above freezing to 6°C (Initial/Corrected)	_			7. If temp. is over 6°C or u			☐ Yes	□ No
All	discrepan	cies will be	written out in the co	omments 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)		/	CHECKED?: except container with a sep	ng acid/base pres. Have bee tions: VOA, coliform, LLHg, tum cap or preserved with HO	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:	·	/		(<2) NaOH (>10) NaOH/Zi to pH recommendations will be				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine C	heck (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine C	heck (Total/Amenable/Free	Cyanide)			
Custody Signatures Present?	/		Headspace Wiscons	in Sulfide?		·		/
Containers Intact?:	1		Headspace in VOA \ See Containter Cou			<u>Present</u>	<u>Absent</u>	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:				"				
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COC	<b>PAGE</b>		of	·

		DI MeOH (only) BK	<del>-</del> -																								i				
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COC		Kit	7			ı	1				ı		1 11					,		,			r				: !			برور وارزوا زبره أعاناه	mance **
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	врзв	BP3Z	сезн	Syringe Kit			١ž	HNO3/ H2SO4 pH <2	ZNAc	NaOH pH>10
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**Container Codes** 

	Gla			Plastic / Misc.								
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	-	BP4U	125mL unpreserved plastic				
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic		BP4N	125mL HNO3 plastic				
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	1	BP4S	125mL H2SO4 plastic				
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic		,		•			
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac		Syringe	e Kit LL Cr+6 sampling kit				
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic							
VG9T	40m⊵ Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic		AF	Air Filter				
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic		С	Air Cassettes				
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		R	Terracore kit				
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac		SP5T	120mL Coliform Na Thiosulfate				
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic		U	Summa Can				
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic		ZPLC	Ziploc Bag				
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered							
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic		WT	Water				
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		SL	Solid				
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		NAL		,			
						-	WP	Wipe	ge 14 of 1			





November 01, 2021

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







## **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50300947001	A12	Solid	10/20/21 16:10	10/22/21 13:05
50300947002	A13	Solid	10/20/21 16:25	10/22/21 13:05
50300947003	DUP	Solid	10/20/21 08:00	10/22/21 13:05
50300947004	A14	Water	10/20/21 16:50	10/22/21 13:05



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50300947001	A12	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300947002	A13	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300947003	DUP	EPA 6010	JPK	8	PASI-I
		EPA 7471	DDA	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50300947004	A14	EPA 6010	JDG	8	PASI-I
		EPA 7470	DDA	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50300947001	A12					
EPA 6010	Arsenic	8.8	mg/kg	1.9	10/30/21 03:12	
EPA 6010	Barium	202	mg/kg	1.9	10/30/21 03:12	
EPA 6010	Chromium	20.5	mg/kg	1.9	10/30/21 03:12	
EPA 6010	Lead	310	mg/kg	1.9	10/30/21 03:12	
EPA 6010	Lithium	17.4	mg/kg	9.4	10/30/21 03:12	N2
SM 2540G	Percent Moisture	53.8	%	0.10	10/25/21 12:07	N2
50300947002	A13					
EPA 6010	Arsenic	7.5	mg/kg	1.2	10/30/21 03:14	
EPA 6010	Barium	63.4	mg/kg	1.2	10/30/21 03:14	
EPA 6010	Chromium	11.9	mg/kg	1.2	10/30/21 03:14	
EPA 6010	Lead	32.9	mg/kg	1.2	10/30/21 03:14	
EPA 6010	Lithium	14.8	mg/kg	5.9	10/30/21 03:14	N2
SM 2540G	Percent Moisture	19.7	%	0.10	10/25/21 12:07	N2
50300947003	DUP					
EPA 6010	Arsenic	8.0	mg/kg	1.9	10/30/21 03:25	
EPA 6010	Barium	207	mg/kg	1.9	10/30/21 03:25	
EPA 6010	Chromium	22.0	mg/kg	1.9	10/30/21 03:25	
EPA 6010	Lead	281	mg/kg	1.9	10/30/21 03:25	
EPA 6010	Lithium	18.3	mg/kg	9.7	10/30/21 03:25	N2
SM 2540G	Percent Moisture	54.6	%	0.10	10/25/21 11:50	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

Sample: A12	Lab ID: 503	00947001	Collected: 10/20/2	1 16:10	Received: 10	0/22/21 13:05 N	Matrix: Solid	
Results reported on a "dry weigl	ht" basis and are adj	usted for p	ercent moisture, sa	mple si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	od: EP/	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	8.8	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:12	7440-38-2	
Barium	202	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:12	7440-39-3	
Cadmium	ND	mg/kg	0.94	1	10/29/21 07:51	10/30/21 03:12	7440-43-9	
Chromium	20.5	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:12	7440-47-3	
Lead	310	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:12	7439-92-1	
Lithium	17.4	mg/kg	9.4	1	10/29/21 07:51	10/30/21 03:12	7439-93-2	N2
Selenium	ND	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:12	7782-49-2	
Silver	ND	mg/kg	0.94	1	10/29/21 07:51	10/30/21 03:12	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.43	1	10/28/21 09:09	10/28/21 17:28	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	53.8	%	0.10	1		10/25/21 12:07		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

Sample: A13	Lab ID: 503	00947002	Collected: 10/20/2	1 16:25	Received: 10	)/22/21 13:05 N	Matrix: Solid	
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	7.5	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:14	7440-38-2	
Barium	63.4	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:14	7440-39-3	
Cadmium	ND	mg/kg	0.59	1	10/29/21 07:51	10/30/21 03:14	7440-43-9	
Chromium	11.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:14	7440-47-3	
Lead	32.9	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:14	7439-92-1	
Lithium	14.8	mg/kg	5.9	1	10/29/21 07:51	10/30/21 03:14	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	10/29/21 07:51	10/30/21 03:14	7782-49-2	
Silver	ND	mg/kg	0.59	1	10/29/21 07:51	10/30/21 03:14	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.24	1	10/28/21 09:09	10/28/21 17:30	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	19.7	%	0.10	1		10/25/21 12:07		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

Sample: DUP	Lab ID: 503	00947003	Collected: 10/20/2	1 08:00	Received: 10	)/22/21 13:05 N	Matrix: Solid	
Results reported on a "dry weig	ht" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	8.0	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:25	7440-38-2	
Barium	207	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:25	7440-39-3	
Cadmium	ND	mg/kg	0.97	1	10/29/21 07:51	10/30/21 03:25	7440-43-9	
Chromium	22.0	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:25	7440-47-3	
Lead	281	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:25	7439-92-1	
Lithium	18.3	mg/kg	9.7	1	10/29/21 07:51	10/30/21 03:25	7439-93-2	N2
Selenium	ND	mg/kg	1.9	1	10/29/21 07:51	10/30/21 03:25	7782-49-2	
Silver	ND	mg/kg	0.97	1	10/29/21 07:51	10/30/21 03:25	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.47	1	10/28/21 09:09	10/28/21 17:37	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	54.6	%	0.10	1		10/25/21 11:50		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

Sample: A14	Lab ID: 5030	00947004	Collected: 10/20/2	21 16:50	Received: 10	/22/21 13:05 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	10 Preparation Metl	nod: EP	A 3010			
	Pace Analytical	Services -	Indianapolis					
Arsenic	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7440-38-2	
Barium	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7440-39-3	
Cadmium	ND	ug/L	2.0	1	10/26/21 13:46	11/01/21 12:44	7440-43-9	
Chromium	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7440-47-3	
Lead	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7439-92-1	
Lithium	ND	ug/L	20.0	1	10/26/21 13:46	11/01/21 12:44	7439-93-2	
Selenium	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7782-49-2	
Silver	ND	ug/L	10.0	1	10/26/21 13:46	11/01/21 12:44	7440-22-4	
7470 Mercury	Analytical Meth	od: EPA 74	70 Preparation Met	nod: EP	A 7470			
-	Pace Analytical	Services -	Indianapolis					
Mercury	ND	ug/L	2.0	1	10/29/21 17:10	10/31/21 15:29	7439-97-6	



Project:

M20032 Muncie Phase II

Pace Project No.:

50300947

QC Batch:

647428

QC Batch Method: EPA 7470 Analysis Method:

Analysis Description:

EPA 7470

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300947004

Parameter

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50300947004

Blank

Result

Units

Reporting Limit

Analyzed

100

Qualifiers

Mercury

Mercury

Mercury

ug/L

ND

2.0 10/31/21 14:15

LABORATORY CONTROL SAMPLE:

2982750

Units

ug/L

Units

ug/L

Spike Conc.

LCS Result

LCS % Rec

Result

4.8

% Rec Limits

98

Mercury

Parameter

Parameter

Parameter

Units ug/L

50300608002

50300608009

Result

Result

ND

ND

5

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2982751 MS

Spike

Conc.

5

5

MSD Spike Conc. MS MSD

4.9

2982754

2982752

Result

5.0

MS % Rec

MSD % Rec

% Rec Limits

75-125

Max **RPD** RPD

2

20

20

Qual

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2982753

MSD Spike MS

4.9

MS

96

Max Qual

MS

Spike

Conc.

Conc.

5

5

MSD Result Result

% Rec 4.9 97

MSD % Rec 98

Limits 75-125

% Rec RPD RPD

Date: 11/01/2021 11:44 PM

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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300947

QC Batch: QC Batch Method: 647192

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300947001, 50300947002, 50300947003

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50300947001, 50300947002, 50300947003

Blank Result Reporting

Limit

Analyzed

Qualifiers

Mercury

Mercury

Units mg/kg

ND

0.20 10/28/21 17:11

LABORATORY CONTROL SAMPLE:

Parameter

2981841

Spike Conc.

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Date: 11/01/2021 11:44 PM

Units mg/kg

0.5

Result 0.52

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2981842

MSD

50300947002 Parameter Units Result

mg/kg

Spike

Spike Conc.

MS Result

2981843

MSD

103

MSD % Rec % Rec Limits

Max **RPD** 

RPD

MS

ND

Conc.

0.65

0.66

Result 0.68 0.71 % Rec 104

MS

105

75-125

Qual 20 3

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

QC Batch: 646596 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300947001, 50300947002, 50300947003

METHOD BLANK: 2979588 Matrix: Solid

Associated Lab Samples: 50300947001, 50300947002, 50300947003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.97	10/30/21 02:44	
Barium	mg/kg	ND	0.97	10/30/21 02:44	
Cadmium	mg/kg	ND	0.49	10/30/21 02:44	
Chromium	mg/kg	ND	0.97	10/30/21 02:44	
Lead	mg/kg	ND	0.97	10/30/21 02:44	
Lithium	mg/kg	ND	4.9	10/30/21 02:44	N2
Selenium	mg/kg	ND	0.97	10/30/21 02:44	
Silver	mg/kg	ND	0.49	10/30/21 02:44	

LABORATORY CONTROL SAMPLE:	2979589					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.7	51.1	105	80-120	
Barium	mg/kg	48.7	51.2	105	80-120	
Cadmium	mg/kg	48.7	47.4	97	80-120	
Chromium	mg/kg	48.7	49.8	102	80-120	
Lead	mg/kg	48.7	47.1	97	80-120	
Lithium	mg/kg	48.7	48.8	100	80-120 N2	2
Selenium	mg/kg	48.7	47.4	97	80-120	
Silver	mg/kg	24.4	23.7	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 2979	590		2979591				·			
			MS	MSD								
	50	0300947002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.5	61.7	52.9	69.3	61.1	100	101	75-125	12	20	
Barium	mg/kg	63.4	61.7	52.9	123	119	96	105	75-125	3	20	
Cadmium	mg/kg	ND	61.7	52.9	58.4	50.1	94	94	75-125	15	20	
Chromium	mg/kg	11.9	61.7	52.9	68.8	62.2	92	95	75-125	10	20	
Lead	mg/kg	32.9	61.7	52.9	80.0	72.9	76	76	75-125	9	20	
Lithium	mg/kg	14.8	61.7	52.9	78.0	69.5	102	103	75-125	11	20	N2
Selenium	mg/kg	ND	61.7	52.9	56.3	48.4	91	91	75-125	15	20	
Silver	mg/kg	ND	30.9	26.5	29.3	25.1	95	95	75-125	16	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

QC Batch: 646603 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300947004

METHOD BLANK: 2979602 Matrix: Water

Associated Lab Samples: 50300947004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	11/01/21 12:37	
Barium	ug/L	ND	10.0	11/01/21 12:37	
Cadmium	ug/L	ND	2.0	11/01/21 12:37	
Chromium	ug/L	ND	10.0	11/01/21 12:37	
Lead	ug/L	ND	10.0	11/01/21 12:37	
Lithium	ug/L	ND	20.0	11/01/21 12:37	
Selenium	ug/L	ND	10.0	11/01/21 12:37	
Silver	ug/L	ND	10.0	11/01/21 12:37	

Parameter         Units         Spike Conc.         LCS Result         LCS % Rec Limits         Qualified           Arsenic         ug/L         1000         942         94         80-120           Barium         ug/L         1000         935         93         80-120           Cadmium         ug/L         1000         918         92         80-120
Arsenic         ug/L         1000         942         94         80-120           Barium         ug/L         1000         935         93         80-120
Barium ug/L 1000 935 93 80-120
3
Cadmium ug/L 1000 918 92 80-120
Chromium ug/L 1000 911 91 80-120
Lead ug/L 1000 870 87 80-120
Lithium ug/L 1000 929 93 80-120
Selenium ug/L 1000 939 94 80-120
Silver ug/L 500 443 89 80-120

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 2979	604		2979605							
	-	0300959003	MS	MSD	MS	MSD	MS	MSD	% Rec		Mov	
Parameter	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	% Rec	RPD	Max RPD	Qual
Arsenic	ug/L	254	1000	1000	1180	1210	93	95	75-125	2	20	
Barium	ug/L	639	1000	1000	1520	1570	88	93	75-125	3	20	
Cadmium	ug/L	9.2	1000	1000	895	906	89	90	75-125	1	20	
Chromium	ug/L	420	1000	1000	1220	1250	80	83	75-125	3	20	
Lead	ug/L	265	1000	1000	965	967	70	70	75-125	0	20	МЗ
Lithium	ug/L	277	1000	1000	1210	1230	94	96	75-125	2	20	
Selenium	ug/L	13.8	1000	1000	891	915	88	90	75-125	3	20	
Silver	ug/L	ND	500	500	444	456	89	91	75-125	3	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300947

QC Batch: QC Batch Method:

646637

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50300947001, 50300947002

SAMPLE DUPLICATE: 2979698

Parameter

Parameter

50300872009 Result

Dup

Max

Qualifiers

Percent Moisture

Percent Moisture

Units %

15.7

Result 15.0 RPD 5 N2

SAMPLE DUPLICATE: 2979699

50300947002 Result

Dup Result

**RPD** 

RPD

Max **RPD** 

Qualifiers

Date: 11/01/2021 11:44 PM

Units %

19.7

17.3

13

5 N2,R1

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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50300947

QC Batch:

QC Batch Method:

646639

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50300947003

SAMPLE DUPLICATE: 2979704

Parameter

50300947003 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Percent Moisture

Units %

54.6

54.9

5 N2

SAMPLE DUPLICATE: 2979705

50300913001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Date: 11/01/2021 11:44 PM

Parameter

Units %

11.7

11.9

2

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

#### **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**

Date: 11/01/2021 11:44 PM

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.

R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50300947

Date: 11/01/2021 11:44 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50300947001	A12	EPA 3050	646596	EPA 6010	647796
50300947002	A13	EPA 3050	646596	EPA 6010	647796
50300947003	DUP	EPA 3050	646596	EPA 6010	647796
50300947004	A14	EPA 3010	646603	EPA 6010	647914
50300947004	A14	EPA 7470	647428	EPA 7470	647829
50300947001	A12	EPA 7471	647192	EPA 7471	647468
50300947002	A13	EPA 7471	647192	EPA 7471	647468
50300947003	DUP	EPA 7471	647192	EPA 7471	647468
50300947001	A12	SM 2540G	646637		
50300947002	A13	SM 2540G	646637		
50300947003	DUP	SM 2540G	646639		

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://inic.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields  Company: Mundell and Associates, Inc.  Address: 110 S Downey Ave, Indianapolis, IN 46219  Report To: Luke Johnstone  Email To: Ljohnstone@mundellassociates.com  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  Phone: 317-630-9060  Site/Facility ID #:  Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions and acceptance of the Pace Terms and Conditions	
Company: Mundell and Associates, Inc.  Address: 110 S Downey Ave, Indianapolis, IN 46219  Report To: Luke Johnstone  Email To: Ljohnstone@mundellassociates.com  Email To: Ljohnstone@mundellassociates.com  Copy To:  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  Phone: 317-630-9060  Sito/Cacility ID #*  ALL BOLD OUTLINED AREAS are for LAB USE  Container Preservative Type **  Lab Project Manager:  Lab Project Manager:  ** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide  (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) amm  (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other  Lab Sample Receip  Custody Seals Pre	
Address: 110 S Downey Ave, Indianapolis, IN 46219  Report To: Luke Johnstone  Email To: Ljohnstone@mundellassociates.com  Copy To:  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  Phone: 317-630-9060  ALL BOLD OUTLINED AREAS are for LAB USE  Container Preservative Type ** Lab Project Manager:  ** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) amm (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other  Analyses  Lab Profile/Line:  Lab Sample Receip Custody Seals Pre	
Report To: Luke Johnstone  Email To: Ljohnstone@mundellassociates.com  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  State: County/City: Time Zone Collected: IN / Muncie   JPT   JMT   CT   X]ET  Custody Seals Pre  Custody State: Custody Seals Pre	
** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide  Copy To:  Site Collection Info/Address: 4849 BLK 5 Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  State: County/City: Time Zone Collected: IN / Muncie []PT []MT []CT [X]ET  State: Customer Project Name/Number: M20032 Muncie Phase II  State: County/City: Time Zone Collected: IN / Muncie []PT []MT []CT [X]ET  Customer Project Name/Number: M20032 Muncie Phase II  State: County/City: Time Zone Collected: IN / Muncie []PT []MT []CT [X]ET  Customer Project Name/Number: M20032 Muncie Phase II  State: County/City: Time Zone Collected: IN / Muncie []PT []MT []CT [X]ET  Custody Seals Pre	
Copy To:  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Customer Project Name/Number: M20032 Muncie Phase II  Phone: 317-630-9060  Site Collection Info/Address: 4849 BLK S Delaware Dr Muncie, Indiana  Muncie, Indiana  (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) amm (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other  Analyses  Lab Profile/Line: Lab Sample Receip Custody Seals Pre	
4849 BLK S Delaware Dr Muncie, Indiana (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other  Customer Project Name/Number:     M20032 Muncie Phase II State: County/City: Time Zone Collected:     IN / Muncie []PT []MT []CT [X]ET  Phone: 317-630-9060   Sito/Escilib ID #	ہ (۱) zinc acetate, onium sulfate.
M20032 Muncie Phase II  IN / Muncie []PT []MT []CT [X]ET  Lab Sample Receip  Custody Seals Pre	
Phone: 317-630-9060   Stro/Eacility ID #	
	sent/Intact Y N NA
Empile Lightertons @ was dellessed	s Present Y N NA re:Present Y N NA
Collected By (print): Purchase Order #: DW PWS ID #: Bottles Intact	Y N NA
Collected By (print): Luke Johnstone Quote #: DW PWS ID #: Correct Bottles  Sufficient Volume Sufficient Volume	Y N NA Y N NA
Collected By (signature): Turnaround Date Required: Immediately Packed on Ice: Samples Received VOA - Headspace A Sample Disposal Rush: (Expedite Charges Apply) Field Filtered (if applicable): USDA Regulated So	on Ice YN NA
Sample Disposal Rush: (Expedite Charges Apply) Field Filtered (if applicable): VOA - Headspace A USDA Regulated So	ils Y N NA
[Modified In Holding Samples in	
[ ] Return [ ] 2 Day [ ] 3 Day C1 Strips:	
[ ] 4 Day [ ] 5 Day   Analysis:	
* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW)	Y N NA
Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)	955 
Comp / Collected (or Composite End Res # of Composite End	
Date Time Date Time CI Ctns Tim	Sal .
	<u>u</u>
A13 (MS/MSD)	
DIP Graph 10/20 10:25 G X	
A14 W 1000 A500	
10/20 16:S0 1 P X	
Customer Remarks / Special Conditions / Possible Hazards: Type of Ice Used: Wet Blue Doy Name (Supply United Supply Conditions) A Special Conditions (Supply United Supply Conditions)	
Total RCRA 8 Metals + Lithium	perature Info ceived: (XX) N NA
Consider 1 my and	Upon Receipt 670C
Radichem sample(s) screened (<500 cpm): Y N NA FEDEX. UPS Client Courier Pace Courier	ected Temp: <u>07</u> 0
Relinquished by/Company: (Signature)  Date/Time:	
10 (22/21 Table #:	
Relinquished by/Company: (Signature)  Date/Time:  Acctnum:  Trip Blank -  Language -  Date/Time:  Acctnum:  Template:  HCL: Me	Received: Y N NA
	eOH TSP Other
Relinquished by/Company: (Signature)  Date/Time: Received by/Company: (Signature)  Date/Time: PM: Non Conforman	ce(s): Page:
PB: YES; // NO	

# SAMPLE CONDITION UPON RECEIPT FORM

/ Face Analytical	(N		HO SML			í		
Date/Time and Initials of person examining contents	s: 1	<u> </u>	10 5/1/2		_			
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PA	CE 🗆 I	JSPS [	OTHER	5. Packing Material:	_ ☐ Bubble Wrap	Bubble	e Bags	
2. Custody Seal on Cooler/Box Present:	No		·		□None	☐ Other		
(If yes)Seals Intact:		were pres	ent)					<del></del>
3. Thermometer: 123456 ABC DEF				6. Ice Type: Wet	☐ Blue ☐ None	·		
4. Cooler Temperature: Cx7/G7 Temp should be above freezing to 6°C (Initial/Corrected)				7. If temp. is over 6°C or u			☐ Yes	□ No
All	discrepand	cies will be	e written out in the c	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)			CHECKED?: exception container with a sep	ling acid/base pres. Have bed ntions: VOA, coliform, LLHg, ptum cap or preserved with Ho	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		/		I (<2) NaOH (>10) NaOH/Zi e to pH recommendations will b			·	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine (	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine (	Check (Total/Amenable/Free	Cyanide)			
Custody Signatures Present?			Headspace Wiscon	sin Sulfide?				
Containers Intact?:			Headspace in VOA See Containter Cou			Present	<u>Absent</u>	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:						lter en en en en en en en en en en en en en		<u></u>
					,			
				· · · · · · · · · · · · · · · · · · ·				
			-					-

	. 1		
COC	PAGE	of \	(

		SBS DI MeOH (only) BK Kit	•																										lot on contain	
COC Line Item	WGFU	R	Деэн Уеэн	VOA VIAL HS (>6mm)	VG9U	0690	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit		Matrix	HNO3/	NaOH/ ZNAc NaC pH >9 pH>	
1	13																										 SL 1			
3	l										-													ļ			 U	. /		
<u>4</u> 5																											 }_			
6 7									-							_				-							 			
8																											 			
9																											 	2		
11			-				-										<u>-</u>													

_		
( :n	ntainer	Codes

	Glas	SS			
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	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI 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		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		250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass		250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

	as	tic / IVIISC.	The state of the s
_	BP4U	125mL unpreserved plastic	
	BP4N	125mL HNO3 plastic	
	BP4S	125mL H2SO4 plastic	

		والتراب والبروي والمناف المساور ويهور	-
Syringe Kit	LL Cr+6 sampling kit		
O) mgo raz			-

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

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

# **APPENDIX A2**

# JANUARY 2022 LABORATORY CERTIFICATES OF ANALYSIS AND CHAINS OF CUSTODY







January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306619001	A22-s (MS/MSD)	Solid	01/06/22 11:05	01/07/22 12:35



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306619001	A22-s (MS/MSD)	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Lab Sample ID	Client Sample ID	Decult	11-26-	Danami Limit	A se a le se a el	Overliff and
Method	Parameters Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306619001	A22-s (MS/MSD)					
EPA 6010	Arsenic	7.3	mg/kg	1.3	01/13/22 11:09	
EPA 6010	Barium	90.8	mg/kg	1.3	01/13/22 11:09	
EPA 6010	Chromium	16.2	mg/kg	1.3	01/13/22 11:09	
EPA 6010	Lead	19.7	mg/kg	1.3	01/13/22 11:09	
EPA 6010	Lithium	9.8	mg/kg	6.3	01/13/22 11:09	N2
SM 2540G	Percent Moisture	22.5	%	0.10	01/08/22 08:55	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Date: 01/17/2022 02:08 PM

Sample: A22-s (MS/MSD)	Lab ID: 503	06619001	Collected: 01/06/2	2 11:05	Received: 01	I/07/22 12:35 N	/latrix: Solid	
Results reported on a "dry weigh	ht" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	7.3	mg/kg	1.3	1	01/11/22 10:22	01/13/22 11:09	7440-38-2	
Barium	90.8	mg/kg	1.3	1	01/11/22 10:22	01/13/22 11:09	7440-39-3	
Cadmium	ND	mg/kg	0.63	1	01/11/22 10:22	01/13/22 11:09	7440-43-9	
Chromium	16.2	mg/kg	1.3	1	01/11/22 10:22	01/13/22 11:09	7440-47-3	
Lead	19.7	mg/kg	1.3	1	01/11/22 10:22	01/13/22 11:09	7439-92-1	
Lithium	9.8	mg/kg	6.3	1	01/11/22 10:22	01/13/22 11:09	7439-93-2	N2
Selenium	ND	mg/kg	1.3	1	01/11/22 10:22	01/13/22 11:09	7782-49-2	
Silver	ND	mg/kg	0.63	1	01/11/22 10:22	01/13/22 11:09	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/11/22 11:25	01/13/22 09:06	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	22.5	%	0.10	1		01/08/22 08:55		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306619

QC Batch:

658134

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306619001

METHOD BLANK:

Matrix: Solid

Associated Lab Samples: 50306619001

Units

Reporting

Limit

0.54

Analyzed

104

Qualifiers

Mercury

Mercury

mg/kg

Units

mg/kg

ND

0.19 01/13/22 08:58

LABORATORY CONTROL SAMPLE: Parameter

Parameter

Date: 01/17/2022 02:08 PM

Parameter

3032523

Spike Conc.

0.52

LCS Result

LCS % Rec

MSD

Result

% Rec Limits

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3032524

ND

MSD

MS

3032525

MS

103

MSD

80-120

% Rec

Max

50306619001 Units Result

MS Spike

Spike Conc.

Result

% Rec

% Rec

Limits **RPD** 

RPD

Mercury

mg/kg

Conc.

0.66 0.66

0.72

0.74

106

75-125

Qual 20 2

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Date: 01/17/2022 02:08 PM

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306619001

METHOD BLANK: 3032509 Matrix: Solid

Associated Lab Samples: 50306619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

LABORATORY CONTROL SAMPLE:	3032510					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N	2
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3032	511		3032512							
	5	0306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	MO
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Date: 01/17/2022 02:08 PM

			MS	MSD								
	5	0306619001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	M0
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306619

QC Batch:

QC Batch Method:

657974

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Parameter

Parameter

50306619001

SAMPLE DUPLICATE: 3031995

50306616001 Result

Dup

Max

Qualifiers

Percent Moisture

Percent Moisture

Units %

42.7

Result 47.6

11

5 N2,R1

SAMPLE DUPLICATE: 3031996

50306619001 Result

Dup Result

**RPD** 

RPD

Max **RPD** 

RPD

Qualifiers

Date: 01/17/2022 02:08 PM

Units %

22.5

22.8

2

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

#### **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**

Date: 01/17/2022 02:08 PM

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.

R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306619

Date: 01/17/2022 02:08 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306619001	A22-s (MS/MSD)	EPA 3050	658130	EPA 6010	658450
50306619001	A22-s (MS/MSD)	EPA 7471	658134	EPA 7471	658401
50306619001	A22-s (MS/MSD)	SM 2540G	657974		

Pace Analytical*		condition	c-CUSTODY Analytical Request Document schain of custody constitutes acknowledgment and acceptance of the Pace Terms and s found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Custody is a LEGAL DOCUMENT - Complete all relevant fields									)# : 5 			19	rder Nun	nber or		
Company: Mundell and Associ	ates, Inc.		Billing Info	rmation:								5030	6610				E ONL	Y	
Address: 110 S Downey Ave, In	ndianapolis, IN 4621	9	110 S	Downey A	ve, Indianap	olis, IN 462	19					3030	0019				it it		
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.co	om			1 10 3 500			and the second second second				(4) sodium hydroxide, (5) zinc		
Сору То:				tion Info/A W Fuson R		Muncie, I	ndiana						(D) TSP, (U) U		4.4.5	-	a) ascorbic acid, (B) ammonium sulfate,		
Customer Project Name/Numb M20032 Muncie Phase II	er:		1000	County/Cit Muncie	•	e Zone Colle T [ ]MT [		()ET					Analyses			Lab	Sample Receipt Chec tody Seals Present/I		
Phone: 317-630-9060	Site/Facility ID	#:			100000000000000000000000000000000000000	e Monitorii	ng?				1			1. 3			tody Signatures Pres lector Signature Pre		
Email: Ljohnstone@mundellass					[ ] Yes	[ ] No			-	8		100		9		Bot	tles Intact	Y N NA	
Collected By (print): Luke Johnstone	Purchase Orde	er#:			DW PWS I					60108	1	(0)				20000	rect Bottles ficient Volume	Y N NA Y N NA	
Collected By (signature):	Quote #: Turnaround D	ate Requir	ed:		-	ely Packed o	on Ice:		(9)	EPA 6		333	N			600000	ples Received on Ice		
19hr	14.11.01.01.01	and made.			[x] Yes	[]No			Glass (G)	via E		- 7		1 9			- Headspace Accepta	ble Y N NA Y N NA	
Sample Disposel: x) Dispose as appropriate  ] Return ] Archive: ] Hold:	Rush: (Expedi [ ] Same D [ ] 2 Day [ ] 4 Day	Day [ ] N [ ] 3 Day			Field Filter [ ] Yes Analysis:	ed (if applie	cable):		Plastic (P) or GI	+ Lithium						Sam Res Cl Sam	A Regulated Soils ples in Holding Time idual Chlorine Prese Strips: ple pH Acceptable Strips:	Y N NA	
Matrix Codes (Insert in Matrix Product (P), Soil/Solid (SL), Oil			C - C - C - C - C - C - C - C - C - C -		The state of the s		),		Type: Pl	A 8 Metals						-0.00	fide Present d Acetate Strips:	Y N NA	
Customer Sample ID	Matrix *	Comp / Grab		ted (or lite Start)	Compo	site End	Res CI	# of Ctns	Container	Total RCRA							See Supple # / Comments		
A22-s (MS/MSD)	SL	Grab	1/6	11:05				3	G	X								31-31-	
					-								100			-			
										III.				Victor		3			
																1	The state of the s		
										115			1				4.1		
		-			-		-		-										
													- 1				W. A. Taraba		
																100	N. Mules		
Customer Remarks / Special Co Total RCRA 8 Metals + Lithiu	7	Hazards:	Type of Ice Packing M	Used: aterial Use	Wet d:	Blue I	Dry	None			2000	T HOLDS	PRESENT (<72	hours):	YNN	N/A	LAB Sample Temperatur Temp Blank Received Therm ID#: Cooler 1 Temp Upon	Receipt: 4.6c	
			Radchem :	sample(s) s	creened (<5	00 cpm):	Y N	NA			Samp	les receiv EX U		Courier	Pace Cour	ier	Cooler 1 Therm Corr Cooler 1 Corrected Comments:	Temp: 4.2 oc	
Relinquished by Company: (Sig	malel/	Dat	e/Time:	11.00	Received b	y/Company	/: (Signat	ture)		06	. 0	ate/Time		MTJ Table #	L LAB USE (	ONLY			
Relinquished by/Company: (Sig			e/Time:	1235	Received b	y/Company		ture)		1	D	ate/Time 1-7-22	12:35	Acctnui Templa Prelogii	te:		Trip Blank Receive HCL MeOH		
Relinquished by/Company: (Sig			e/Time:		Received b	y/Company	_	ture)			D	ate/Time		PM: PB:			Non Conformance(s): YES / NO	Page: of:	

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

Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG     Custody Seal on Cooler/Box Present: ☐ Yes	No		5. Packing Material: Bubble Wrap	☑ Bubbl		
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 1 2 3 4)5 6 A B C D E F  4. Cooler Temperature: 4.4 /4.2  Temp should be above freezing to 6°C (Initial/Corrected)		vere pres	6. Ice Type: Wet Blue N 7. If temp. is over 6°C or under 0°C, was the		': □ Yes	□ No
All			written out in the comments section below.	100000	1 .	
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No.	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A
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 contai count form	ner		1
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	1	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	V	Residual Chlorine Check (Total/Amenable/Free Cyanide)	-		1,
Custody Signatures Present?	<b>√</b>		Headspace Wisconsin Sulfide?			V
Containers Intact?:	1		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	<b>V</b>		Trip Blank Present?	4 1 1	1	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		15.	1
COMMENTS:						

COC PAGE	of_
----------	-----

# Sample Container Count

\*\* Place a RED dot on containers

that	are	out	of	conf	ormance
------	-----	-----	----	------	---------

		KIL																								u	nat ar	e out of	contorn	lance
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	BP3B	BP3Z	СВЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	3	1-4				- 1				-1										3.41							SL			
2																														
3																														
4																		L					1 1							
5									-	-			- [		-															
6																														
7						11																								
8					-1		-																1							
9																							- 1							
10			1-1																											
11					1								-																	
12							-																							

### Container Codes

	Gla	SS		Plastic / Misc.						
DG9H	40mL HCI amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic			
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass		1L HNO3 plastic	BP4N	125mL HNO3 plastic			
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic			
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic					
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syring	e Kit LL Cr+6 sampling kit			
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic					
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air Filter			
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air Cassettes			
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit			
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na Thiosulfate			
	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Summa Can			
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziploc Bag			
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered					
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water			
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	•	250mL H2SO4 plastic	SL	Solid			
GN	General	_	250mL NaOH amber glass	-	250mL NaOH, ZnAc plastic	NAL	OL Non-aqueous liquid C			
		_		-		WD	Wine			

lastic / Misc.								
	BP4U	125mL unpreserved plastic						
	BP4N	125mL HNO3 plastic						
	BP4S	125mL H2SO4 plastic						

Syringe Kit	LL Cr+6 sampling kit
-------------	----------------------

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

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





January 19, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306800001	A30S	Solid	01/07/22 15:00	01/11/22 13:10
50306800002	E106	Water	01/07/22 15:06	01/11/22 13:10



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306800001	A30S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306800002	E106	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Lab Sample ID	Client Sample ID	-		<b>5</b>		0 110
Method	Parameters Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306800001	A30S					
EPA 6010	Arsenic	8.4	mg/kg	1.3	01/14/22 04:02	
EPA 6010	Barium	197	mg/kg	1.3	01/14/22 04:02	
EPA 6010	Chromium	15.9	mg/kg	1.3	01/14/22 04:02	
EPA 6010	Lead	16.4	mg/kg	1.3	01/14/22 04:02	
EPA 6010	Lithium	11.4	mg/kg	6.5	01/14/22 04:02	N2
SM 2540G	Percent Moisture	25.7	%	0.10	01/13/22 09:49	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Date: 01/19/2022 12:31 PM

Sample: A30S	Lab ID: 503	06800001	Collected: 01/07/2	22 15:00	Received: 01	I/11/22 13:10 N	Matrix: Solid	
Results reported on a "dry weig	ght" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	8.4	mg/kg	1.3	1	01/12/22 14:28	01/14/22 04:02	7440-38-2	
Barium	197	mg/kg	1.3	1	01/12/22 14:28	01/14/22 04:02	7440-39-3	
Cadmium	ND	mg/kg	0.65	1	01/12/22 14:28	01/14/22 04:02	7440-43-9	
Chromium	15.9	mg/kg	1.3	1	01/12/22 14:28	01/14/22 04:02	7440-47-3	
Lead	16.4	mg/kg	1.3	1	01/12/22 14:28	01/14/22 04:02	7439-92-1	
Lithium	11.4	mg/kg	6.5	1	01/12/22 14:28	01/14/22 04:02	7439-93-2	N2
Selenium	ND	mg/kg	1.3	1	01/12/22 14:28	01/14/22 04:02	7782-49-2	
Silver	ND	mg/kg	0.65	1	01/12/22 14:28	01/14/22 04:02	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.25	1	01/17/22 12:28	01/18/22 09:11	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	25.7	%	0.10	1		01/13/22 09:49		N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Date: 01/19/2022 12:31 PM

Sample: E106	Lab ID: 5030	6800002	Collected: 01/07/2	22 15:06	Received: 01	/11/22 13:10 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	10 Preparation Met	nod: EP/	A 3010			
	Pace Analytical	Services -	Indianapolis					
Arsenic	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7440-38-2	
Barium	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7440-39-3	
Cadmium	ND	ug/L	2.0	1	01/17/22 08:25	01/18/22 10:03	7440-43-9	
Chromium	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7440-47-3	
Lead	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7439-92-1	
Lithium	ND	ug/L	20.0	1	01/17/22 08:25	01/18/22 10:03	7439-93-2	
Selenium	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7782-49-2	
Silver	ND	ug/L	10.0	1	01/17/22 08:25	01/18/22 10:03	7440-22-4	
7470 Mercury	Analytical Meth	od: EPA 74	70 Preparation Met	nod: EP/	A 7470			
-	Pace Analytical	Services -	Indianapolis					
Mercury	ND	ug/L	2.0	1	01/14/22 06:55	01/14/22 12:48	7439-97-6	



Project:

M20032 Muncie Phase II

Pace Project No.:

50306800

QC Batch:

METHOD BLANK:

QC Batch Method:

658512

EPA 7470

Analysis Method:

EPA 7470

Analysis Description:

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306800002

Matrix: Water

Associated Lab Samples:

50306800002

Units

ug/L

Blank

Result

Reporting Limit

Analyzed

104

Qualifiers

Mercury

Mercury

Units ug/L

ND

2.0 01/14/22 12:11

LABORATORY CONTROL SAMPLE:

Parameter

3034139

Spike

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Parameter

Date: 01/19/2022 12:31 PM

Units ug/L

Conc.

Result 5.2

3034141

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034140

MSD

5

MSD Result

MS % Rec

MSD % Rec

% Rec

Max RPD

MS

50306625001 Result

ND

Spike Spike Conc. Conc.

MS Result 5 5.0

5.0

99

Limits 98 75-125

**RPD** 

Qual 20 0

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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306800

QC Batch:

658622

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

50306800001 Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306800001

Parameter

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE: Parameter

3034665

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Date: 01/19/2022 12:31 PM

Units mg/kg

0.48

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

MSD

MS

3034667

0.23

48

MSD % Rec

% Rec

Max **RPD** 

50306793001

ND

MS Spike Conc.

Spike Conc.

Result 0.92

MSD

% Rec

Limits

RPD

Mercury

Units Result

mg/kg

0.72 0.69

Result 0.94

105

MS

107

75-125 2

20

Qual

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Date: 01/19/2022 12:31 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306800001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306800001

ъ.		Blank	Reporting		0 115
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	12
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3033	076		3033077							
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	MO
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306800

QC Batch: 658404 Analysis Method: EPA 6010 QC Batch Method: EPA 3010 Analysis Description: 6010 MET

> Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306800002

METHOD BLANK: 3033717 Matrix: Water

Associated Lab Samples: 50306800002

LABORATORY CONTROL SAMPLE:

Selenium

Date: 01/19/2022 12:31 PM

Silver

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND ND	10.0	01/19/22 07:58	
Barium	ug/L	ND	10.0	01/18/22 09:55	
Cadmium	ug/L	ND	2.0	01/18/22 09:55	
Chromium	ug/L	ND	10.0	01/18/22 09:55	
Lead	ug/L	ND	10.0	01/18/22 09:55	
Lithium	ug/L	ND	20.0	01/18/22 09:55	
Selenium	ug/L	ND	10.0	01/18/22 09:55	
Silver	ua/L	ND	10.0	01/18/22 09:55	

		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits

3033718

ug/L

ug/L

<10.0

<10.0

1000

500

Parameter	ameter Units		Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	1000	987	99	80-120	
Barium	ug/L	1000	977	98	80-120	
Cadmium	ug/L	1000	967	97	80-120	
Chromium	ug/L	1000	986	99	80-120	
Lead	ug/L	1000	927	93	80-120	
Lithium	ug/L	1000	989	99	80-120	
Selenium	ug/L	1000	974	97	80-120	
Silver	ug/L	500	461	92	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3033	719		3033720							
Parameter	t Units	50306939002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	28.1	1000	1000	1120	1130	109	110	75-125	1	20	
Barium	ug/L	462	1000	1000	1510	1540	105	108	75-125	2	20	
Cadmium	ug/L	5.6	1000	1000	1040	1050	103	104	75-125	1	20	
Chromium	ug/L	<10.0	1000	1000	1020	1020	101	102	75-125	1	20	
Lead	ug/L	154	1000	1000	1040	1060	89	90	75-125	1	20	
Lithium	ug/L	28.4	1000	1000	1060	1060	103	103	75-125	1	20	

1000

500

1070

495

1090

501

107

99

109

100

75-125

75-125

2 20

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.



SM 2540G

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

QC Batch: 658420

Analysis Description:

QC Batch Method: SM 2540G Dry Weight/Percent Moisture Pace Analytical Services - Indianapolis

Laboratory: 50306800001 Associated Lab Samples:

SAMPLE DUPLICATE: 3033111

Date: 01/19/2022 12:31 PM

50306805001 Dup Max RPD RPD Parameter Units Result Result Qualifiers 20.5 5 N2 Percent Moisture % 19.9 3

Analysis Method:

SAMPLE DUPLICATE: 3033112 50306805002 Dup Max

Parameter Units Result Result **RPD RPD** Qualifiers 21.2 % Percent Moisture 24.5 14 5 N2,R1

SAMPLE DUPLICATE: 3033767

50306793001 Dup Max Result RPD RPD Parameter Units Result Qualifiers Percent Moisture % 27.8 26.7 4 5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

#### **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**

Date: 01/19/2022 12:31 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306800

Date: 01/19/2022 12:31 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306800001	A30S	EPA 3050	658262	EPA 6010	658576
50306800002	E106	EPA 3010	658404	EPA 6010	658923
50306800002	E106	EPA 7470	658512	EPA 7470	658586
50306800001	A30S	EPA 7471	658622	EPA 7471	658891
50306800001	A30S	SM 2540G	658420		

Site Collection Info/Address: SSOS Nord St.  Muncle, Indiana State: Country(Try: I'me Zone Collected: I'm / Muncle I'm / Muncle I'm / Muncl	~	CH	IAIN-OF	CUSTO	OV Analy	vtical Rec	nuest De	ocume	ent				LABU	ISE ON	ILY- Aff	ix Worko	rder/Lo	ogin Lal	bel Here	or List Pace Workorder Number or						
Sine Collection of Associates. Inc.    Container Preservative Type	Pace Analytical*		ample via this Condition	chain of custod s found at: http:	ly constitutes a s://info.pacela	acknowledgmen bs.com/hubfs/p	t and acceptar as-standard-te	nce of the P erms.pdf		sand																
Second Front   Like   Annahorson   Email To:   Uphrastone@mundellassociates.com   Second Emandellassociates.com   Second Email To:   Uphrastone@mundellassociates.com   Second Emandellassociates.com   Second Emandellassoc	Company: Mundell and Associate	s, Inc.		1									- 1	ALLE	BOLD	OUT	IN		IIIII	1 1111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
Email To: Uphratione@mundellassociates.com   Funding Markers   Sec Control (Time Case Collected International Collections   Sec Collected International Collections	Address: 110 S Downey Ave, India	anapolis, IN 4621	9	1105	Downey A	ve, Indianap	olis, IN 462	219							pe	Ш	114411111111									
Site Collection Info/Address: 4505 Nord St.  Muncle, Indiana State County(City): Time Zone Collected: 1504 Nord Project Name/Number: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1505 Nord St.  State: County(City): Time Zone Collected: 1506 Nord St.  State: County(City): Time Zone Collected: 1506 Nord St.  State: County(City): Time Zone Collected (if applicable): 1506 Nord St.  State: County(City): Time Zone Collected (if applicable): 1507 Nord St.  State: County(City): Time Zone Collected (if applicable): 1508 Nord St.  State: County(City): Time Zone Collected (if applicable): 1508 Nord St.  St. St.  St. St. St. St.  St. St. St. St. St.  St. St. St. St. St.  St. St. St. St. St. St.  St. St. St. St. St. St.  St. St. St. St. St. St. St.  St. St. St. St. St. St. St.  St. St. St. St. St. St. St. St.  St. St. St. St. St. St. St. St. St.  St. St. St. St. St. St. St. St. St.  St. St. St. St. St. St. St. St. St.  St. St. St. St. St. St. St. St. St. St.	Report To: Luke Johnstone			Email To:	Liohnstone	@mundella	ssociates.c	om								- 19		3030	0000							
Sate County City Composite Special Condition of Possible Hazards:  State: County City: Time Zone Collected:  State					9 9 9															A) ascorbic acid. (B) ammonium sulfate						
Salet: County/City. Time Zone Collected:   N	Сору То:						Muncie	Indiana					0.25/0.3 8.3 9													
MAD032 Muncle Phase II No. / Muncle   IPT   INT   ET IXIE   Complement Montanger   International Phase   Inter	Curtomor Project Name/Number:			-				10.17.537.67	_	_					Analy	ses	_		_							
Martin   M				0.00	2010 0 100 000 000				X]ET			1				100	1									
Customer Fample ID  Matrix **Corpor Face Processor   Contract Processor	Phone: 317-630-9060	Site/Facility ID	#:			_						1					10	1	1 B	Custody Signatures Present Y N NA						
Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Courtemer Remarks / Special Conditions / Possible Hazards:  Total RCA8 & Metals + Lithium  Received by/Company; (Signature)  Date/Time:  Date/Time:  Date/Time:  Date/Time:  PM:  PM:  PM:  Total RCA8 Metals + Lithium  Conditions / Possible Hazards:  Type of ice Used:  Total RCA8 & Metals + Lithium  Conditions / Possi	Email: Ljohnstone@mundellassoc	iates.com				[ ] Yes	[ ] No				12	12	81				10	1								
Rush: (Expedite Charges Apply)   Filed Filtered (if applicable):   I Same Day   I	Collected By (print):	Purchase Orde	er#:			DW PWS I	D#:				108	108					10									
Rush: (Expedite Charges Apply)   Filed Filtered (if applicable):   I yes   I						_					9 4 60	18					11	3								
Rush: (Expedite Charges Apply)   Filed Filtered (if applicable):   I yes   I	Collected By (signature):	Turnaround D	ate Requir	red:				on Ice:		ss (6	EP/	l g					11	2								
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A30S SL Grab 1/7 15:00	Product (P), Soil/Solid (SL), Oil (C	)L), Wipe (WP), A	1	T		Vapor (V), O	thei (O1)	Das	I # of	1 €	S.	Z Z				100	10		1	LAB USE ONLY:						
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F-IN-Q-290-rev.21, 02Feb2021

Pace Analytical

### SAMPLE CONDITION UPON RECEIPT FORM

(If yes)Seals Intact:    Yes    No (leave blank if		Bubble Bags				
3. Thermometer: 123456 ABCDEF 4. Cooler Temperature: 0.6/0.6 Temp should be above freezing to 6°C (Initial/Corrected)	+		6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM		:□ Yes	□ No
All d			written out in the comments section below.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, DK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been <a href="CHECKED?">CHECKED?</a> : exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Any non-conformance to pH recommendations will be noted on the container count form    RC   C    C    C    C    C    C    C	1		1
Fime 5035A TC placed in Freezer or Short Holds To Lab	ime:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	$\checkmark$	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	V		Headspace Wisconsin Sulfide?			1
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC	PAGE	of	1
	3 7 2 7 7 7 -		_

## **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

		Kit	3																							that a	re out of	conform	nance **
COC Line Item	WGFU		DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Desn	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit	1 5	H2SO4	NaOH/ ZNAc pH >9	NaOH
1	1	-		4/	1									0		11.1										SL		/	-
2																										W	/	-	
3				41-11																									
4		14											L													2 1			
5																													
6				7 =																									
7																													
8																													
9				f = 1																									
10																													
11			-=1																										
12																													

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

Plastic / Misc.							
	BP4U	125mL unpreserved plastic					
	BP4N	125mL HNO3 plastic					
	BP4S	125mL H2SO4 plastic					

Syringe	e Kit LL Cr+6 sampling kit	
AF	Air Filter	
С	Air Cassettes	
R	Terracore kit	
SP5T	120mL Coliform Na Thiosulfate	
U	Summa Can	
ZPLC	Ziploc Bag	

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





January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306620001	A44s	Solid	01/06/22 11:40	01/07/22 12:35



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306620001	A44s	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Lab Sample ID	Client Sample ID			_		
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306620001	A44s					
EPA 6010	Arsenic	7.9	mg/kg	1.2	01/13/22 12:15	
EPA 6010	Barium	69.6	mg/kg	1.2	01/13/22 12:15	
EPA 6010	Chromium	17.8	mg/kg	1.2	01/13/22 12:15	
EPA 6010	Lead	163	mg/kg	1.2	01/13/22 12:15	
EPA 6010	Lithium	11.4	mg/kg	6.0	01/13/22 12:15	N2
SM 2540G	Percent Moisture	25.5	%	0.10	01/08/22 08:55	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Date: 01/17/2022 01:52 PM

Sample: A44s	Lab ID: 503	06620001	Collected: 01/06/2	2 11:40	Received: 01	I/07/22 12:35 I	Matrix: Solid	
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	7.9	mg/kg	1.2	1	01/11/22 10:22	01/13/22 12:15	7440-38-2	
Barium	69.6	mg/kg	1.2	1	01/11/22 10:22	01/13/22 12:15	7440-39-3	
Cadmium	ND	mg/kg	0.60	1	01/11/22 10:22	01/13/22 12:15	7440-43-9	
Chromium	17.8	mg/kg	1.2	1	01/11/22 10:22	01/13/22 12:15	7440-47-3	
Lead	163	mg/kg	1.2	1	01/11/22 10:22	01/13/22 12:15	7439-92-1	
Lithium	11.4	mg/kg	6.0	1	01/11/22 10:22	01/13/22 12:15	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/11/22 10:22	01/13/22 12:15	7782-49-2	
Silver	ND	mg/kg	0.60	1	01/11/22 10:22	01/13/22 12:15	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/11/22 11:25	01/13/22 09:18	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	25.5	%	0.10	1		01/08/22 08:55		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306620

QC Batch: QC Batch Method: 658134

EPA 7471

Analysis Method:

Analysis Description:

EPA 7471

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306620001

50306620001

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

mg/kg

ND

0.19 01/13/22 08:58

LABORATORY CONTROL SAMPLE: Parameter

Parameter

3032523

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Units mg/kg

0.52

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3032524

MS

MSD

MS

3032525

0.54

MSD Result

MS % Rec MSD

106

% Rec **RPD** 

Max

Mercury

Date: 01/17/2022 01:52 PM

Mercury

50306619001 Parameter Units Result

mg/kg

ND

Spike Spike Conc. Conc. 0.66 0.66

Result 0.72

0.74

104

% Rec

103

Limits 75-125

RPD

20 2

Qual

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Date: 01/17/2022 01:52 PM

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306620001

METHOD BLANK: 3032509 Matrix: Solid

Associated Lab Samples: 50306620001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

LABORATORY CONTROL SAMPLE:	3032510					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N	12
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3032	511		3032512							
	5	0306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	MO
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Date: 01/17/2022 01:52 PM

			MS	MSD								
	5	0306619001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	M0
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306620

QC Batch: QC Batch Method:

657974

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306620001

Parameter

SAMPLE DUPLICATE: 3031995

50306616001 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Units %

42.7

47.6

11

5 N2,R1

SAMPLE DUPLICATE: 3031996

Date: 01/17/2022 01:52 PM

50306619001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Parameter Percent Moisture

Units %

22.5

22.8

2

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

#### **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**

Date: 01/17/2022 01:52 PM

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.

R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306620

Date: 01/17/2022 01:52 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306620001	A44s	EPA 3050	658130	EPA 6010	658450
50306620001	A44s	EPA 7471	658134	EPA 7471	658401
50306620001	A44s	SM 2540G	657974		

	-			200 2 3 5 2	10000							TA L	MA	1 . 1	50	30	66	20	-		
Pace Analytical"		sample via this Condition	is chain of custons found at: http	ody constitutes a ps://info.pacela	ytical Re acknowledgmen abs.com/hubfs/p MENT - Compl	nt and acceptar pas-standard-te	erms.pdf	e Pace Terms	s and									20	I NO	umber or	
Company: Mundell and Associat	tes, Inc.		Billing Info	ormation:								50	30662	20					DN	IIY	
Address: 110 S Downey Ave, Ind	ianapolis, IN 4621	19	110 5	Downey A	ve, Indianap	olis, IN 462	219					Contain	ner Prese	21Vative	гурс						
Report To: Luke Johnstone			Email To:	Ljohnstone	e@mundella	associates.c	com												hydroxide, (5) zi		
Сору То:				ction Info/A Edgewood		Muncie, I	Indiana			100000000000000000000000000000000000000		(7) sodium n hydroxide	e, (D) TSP,	(U) Unp					i, (B) ammonium	sulfate,	
Customer Project Name/Number M20032 Muncie Phase II	r:			County/Cit Muncie		ne Zone Colle	llected:						Anal	lyses	100			Production of the Control of the Con	ne: Receipt Che als Present		N NA
Phone: 317-630-9060	Site/Facility ID	) #:			1	ce Monitori				20		-	1,70					Custody Sie	gnatures Pro	esent Y	N NA
Email: Ljohnstone@mundellasso	ciates.com				[ ] Yes	[ ] No				-		3			1.0				Signature P		
Collected By (print):	Purchase Orde	er#:			DW PWS	D#:			1	60108		100			18			Bottles In			N NA
Luke Johnstone	Quote #:				DW Locat	tion Code:				09 1		12	13.			1		Sufficient	Volume	Y	N NA
Collected By (signature):	Turnaround D	ate Requir	red:		Immediat [x] Yes	tely Packed o	on Ice:		Glass (G)	via EPA									space Accept	table Y	N NA N NA N NA
Sample Oisposof:  x   Dispose as appropriate   Return   Archive:	Rush: (Expedi [ ]Same ( [ ]2 Day [ ]4 Day	Day [ ] N [ ] 3 Day	Next Day		Field Filter [ ] Yes Analysis:	red (if appli			Plastic (P) or G	+ Lithium								Samples in	Holding Timelorine Pres	me Y sent Y	N NA N NA N NA
Hold: Matrix Codes (Insert in Matrix b Product (P), Soil/Solid (SL), Oil (	box below): Drinki	ing Water (	(DW), Groun		GW), Waster	water (WW)	),	_	Type: Plas	4 8 Metals							11 1	pH Strips: Sulfide Pro Lead Aceta		Ý	N NA
Customer Sample ID	Matrix *	Comp / Grab	Collec	cted (or site Start)	1	osite End	Res	# of Ctns	Container T	al RCRA									# / Comment		
			Date	Time	Date	Time			Cont	Total								set	Scu	N	
A44s	SL	Grab	1/6	11:40				1	G	X											
												52							10		
			1																TIL		
							-														
				1			$\vdash$		F										AC LAST		
Customer Remarks / Special Conc	editions / Possible	Hazards:	7	100-4		21 .					Tever	THOUGE		1 221				AP Com	-la Tamparati	en tefo	
Total RCRA 8 Metals + Lithium	and the second second	11020103.	Type of Ice Packing M	e Used: Naterial Use	Wet	Blue (	Dry	None			2000	racking #:	TOTAL STATE	( 21</td <td>nours):</td> <td>YIN</td> <td>N/A</td> <td>Temp B</td> <td>ple Temperatu Lank Receive ID#:</td> <td>ed: Y N</td> <td></td>	nours):	YIN	N/A	Temp B	ple Temperatu Lank Receive ID#:	ed: Y N	
			Radchem	sample(s) s	creened (<5	00 cpm):	Y	N NA				oles receiv		lient	Courier	Pace C	ourier	Cooler Cooler	1 Therm Con 1 Corrected	rr. Factor	201
Relinquished by/gompany: (Signa	(Mule!	/) Date	e/Time:		Received b	y/Company	Signa	ature)	F	2	0	Date/Time	: 1	1.0	MT Table #		ISE ONLY	Comment	:5:		
Refinquished by/Company: (Signa	ature)	Date	e Time:		Received b	oy/Company		ature)			0	Date/Time	2:	:35	Acctnu Templa	m: ate:		3	ip Blank Recei HCL MeOH		
Relinquished by/Company: (Signa	ature)	Date	e/Time:		Received b	y/Company		ature)			C	Date/Time	_	.00	Prelogi PM:	in:		Non Co	onformance(s)	: Page:	

PM: PB:

YES / NO

of: Page 13 of 15

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

Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents			722 15:	^	-	,		
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PA	CE   L	ISPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	₩ Bubble	e Bags	
2. Custody Seal on Cooler/Box Present:  Yes	No No				□None	☐ Other		
(If yes)Seals Intact:    Yes    No (leave blank	if no seals	were pres	ent)	1				
3. Thermometer: 123 (5) 5 6 ABCDEF				6. Ice Type: Wet	☐ Blue ☐ None			
4. Cooler Temperature: 4.4 /4.2  Temp should be above freezing to 6°C (Initial/Corrected)	_			7. If temp. is over 6°C or	under 0°C, was the PM	notified?:	☐ Yes	□ No
	discrepand	ies will be	written out in th	e 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)		1	CHECKED?: excontainer with a	eeding acid/base pres. Have be ceptions: VOA, coliform, LLHg, septum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H28 Any non-conformation	SO4 (<2) NaOH (>10) NaOH/2 ance to pH recommendations will l	ZnAc (>9) be noted on the container			/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	1	Residual Chlorin	ne Check (SVOC 625 Pest/PCE	3 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		٧	Residual Chlorin	ne Check (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?	/		Headspace Wisc	consin Sulfide?				V
Containers Intact?:	1			OA Vials (>6mm): Count form for details		Present	Absent	No VOA Vlak Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Prese	nt?			V	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custo	ody Seals?:				0
COMMENTS:								

COC	PAGE _	of_	
-----	--------	-----	--

## Sample Container Count

\*\* Place a RED dot on containers

that	arn	aut	inf	COR	orman	PD .

		Kit																								- 1	that ar	e out of	conform	ance "
COC Line Item	WGFU		резн Усен	VOA VIAL HS (≻6mm)	VG9U	DG9U	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1	1-57		(1,7)														1	1.		1						SL			
2										-																				
3					?=[								-1																	
4		_			-																-			_						
5																														
6																														
7																														
8																													1 5	
9				1-7																						= 1				
10																					1					-				
11										Ť																				
12																										= 1				

#### Container Codes

	Gla	SS				Plas	tic	/ Misc.	
DG9H	40mL HCI amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125n	nL unpreserved plastic	
DG9P	40mL TSP amber vial	BG1U		_	1L HNO3 plastic	BP4N	125n	nL HNO3 plastic	
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125n	nL 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	Syring	e Kit	LL Cr+6 sampling kit	
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	100			
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air F	Filter	
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air (	Cassettes	
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terr	acore kit	
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120	mL Coliform Na Thiosi	ulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Sun	nma Can	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziple	oc Bag	
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered				
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water	
BG1S	1L H2SO4 clear glass		250mL unpres amber glass		250mL H2SO4 plastic	SL		Solid	
GN	General	-	250mL NaOH amber glass		250mL NaOH, ZnAc plastic	NAL	OL	Non-aqueous liquid	Oil
		_		_		WP		Wine	

las	LIC / IVIISC.
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306782001	E12S	Solid	01/07/22 14:05	01/11/22 13:10



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306782001	E12S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Lab Sample ID Method	Client Sample ID	Doguilt	Llaita	Donort Limit	Anglyzad	Qualifiara
wethod	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306782001	E12S					
EPA 6010	Arsenic	7.9	mg/kg	1.2	01/14/22 03:35	
EPA 6010	Barium	88.5	mg/kg	1.2	01/14/22 03:35	
EPA 6010	Chromium	14.6	mg/kg	1.2	01/14/22 03:35	
EPA 6010	Lead	40.1	mg/kg	1.2	01/14/22 03:35	
EPA 6010	Lithium	10.8	mg/kg	6.0	01/14/22 03:35	N2
SM 2540G	Percent Moisture	25.5	%	0.10	01/13/22 09:05	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Date: 01/18/2022 02:13 PM

Sample: E12S	Lab ID: 503	06782001	Collected: 01/07/2	2 14:05	Received: 01	/11/22 13:10 N	/latrix: Solid	
Results reported on a "dry we	eight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	od: EP	A 3050			
	Pace Analytica	I Services -	Indianapolis					
Arsenic	7.9	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:35	7440-38-2	
Barium	88.5	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:35	7440-39-3	
Cadmium	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:35	7440-43-9	
Chromium	14.6	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:35	7440-47-3	
Lead	40.1	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:35	7439-92-1	
Lithium	10.8	mg/kg	6.0	1	01/12/22 14:28	01/14/22 03:35	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:35	7782-49-2	
Silver	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:35	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.28	1	01/17/22 12:26	01/18/22 08:05	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	25.5	%	0.10	1		01/13/22 09:05		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306782

QC Batch:

658620

QC Batch Method: EPA 7471

Analysis Method: Analysis Description: EPA 7471

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306782001

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306782001

Blank

Result

Reporting Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

Parameter

3034656

Spike Conc.

LCS Result

LCS % Rec

MSD

% Rec Limits

Qualifiers

Parameter Mercury

Date: 01/18/2022 02:13 PM

Units mg/kg

0.48

0.54

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034657

ND

MSD

MS

0.62

Spike

0.59

MS

3034658

MS % Rec MSD

116

% Rec

Max

Mercury

50306781001 Parameter Units Result mg/kg

Spike Conc.

Conc.

Result 0.71

Result 0.70

112

% Rec

110

Limits

**RPD** RPD

Qual

20 75-125

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Date: 01/18/2022 02:13 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306782001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306782001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	12
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077							
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306782

QC Batch:

658416

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Parameter

Parameter

50306782001

SAMPLE DUPLICATE: 3033756

50306781001 Result

Dup Result

Max RPD RPD

3

Qualifiers

Percent Moisture

Percent Moisture

Units %

16.4

16.6

5 N2

SAMPLE DUPLICATE: 3033791

Date: 01/18/2022 02:13 PM

50306879005 Result

Dup Result

4.8

**RPD** 

Max **RPD** 

Qualifiers

Units %

5.0

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

#### **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**

Date: 01/18/2022 02:13 PM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306782

Date: 01/18/2022 02:13 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306782001	E12S	EPA 3050	658262	EPA 6010	658576
50306782001	E12S	EPA 7471	658620	EPA 7471	658890
50306782001	E12S	SM 2540G	658416		

## Pace Analytical

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

#### CHAIN-OF-CUSTODY Analytical Request Document

Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

LAB USE ONLY- Affix Workorder/I noin I shall Hars or liet Dage Morkorder Number or

WO#:50306782

Billing Information: Company: Mundell and Associates, Inc. Address: 110 S Downey Ave, Indianapolis, IN 46219 110 S Downey Ave. Indianapolis, IN 46219 Container Pro Email To: Ljohnstone@mundellassociates.com Report To: Luke Johnstone \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate. (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other 3421 W Armitage Dr. Muncie, Indiana Analyses Lab Profile/Line: State: County/City: Time Zone Collected: Customer Project Name/Number: Lab Sample Receipt Checklist: M20032 Muncie Phase II Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Collector Signature Present YNNA Email: Liohnstone@mundellassociates.com | | Yes | | No Bottles Intact RCRA 8 Metals + Lithium via EPA 60108 Y N NA Purchase Order # DW PWS ID #: Collected By (print): Correct Bottles Y N NA Luke Johnstone/ Andy Miller DW Location Code: Quote #: Sufficient Volume Y N NA Collected By (signature) (9) Samples Received on Ice Turnaround Date Required: Immediately Packed on Ice: Y N NA Glass ( VOA - Headspace Acceptable YNNA [x] Yes I I No USDA Regulated Soils Y N NA Rush: (Expedite Charges Apply) Field Filtered (if applicable): Sample Disposal: Samples in Holding Time Y N NA 0 [ ] Same Day [ | Next Day [ ] No [ x ] Dispose as appropriate [ ] Yes Residual Chlorine Present Y N NA (b) Cl Strips: [ | Return 1 12 Day 1 13 Day Sample pH Acceptable Y N NA [ ] Archive: [ ] 4 Day [ ] 5 Day Analysis: pH Strips: [ ] Hold: Sulfide Present YNNA Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Lead Acetate Strips: Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) LAB USE ONLY: Comp / Collected (or Res # of Container Composite End Lab Sample # / Comments: Matrix \* Ctns Customer Sample ID CI Total Grab Composite Start) SP SUR Date Time Date Time 1 G X SL 14:05 E125 1/7 Grab Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A LAB Sample Temperature Info: Type of Ice Used: Wet Blue Dry None Temp Blank Repived: ()
Therm ID#: Total RCRA 8 Metals + Lithium Packing Material Used: Lab Tracking #: Cooler 1 Temp Upon Receipt:0 00 Cooler I Therm Corr. Factor Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA Cooler I Corrected Temp: 060 00 FEDEX UPS Client Courier Pace Courier omments: Date/Tyme: 1220 MTJL LAB USE ONLY Relinquished by/Company: (Signature) Received by/Company: (Signature) 1/11/22 Table #: Date/Time: Relinquished by/Company: (Signature) Received by/Company: (Signature) Date/Time: Acctnum: Trip Blank Received: Y N NA Template: HCL MeOH TSP Other Prelogin: Received by/Company: (Signature) Date/Time: Date/Time: PM: Non Conformance(s): Page: Relinquished by/Company: (Signature) Page 12 of 14 PB: YES / NO

# Pace Analytical"

## SAMPLE CONDITION UPON RECEIPT FORM

Courier: □ FED EX □ UPS □ CLIENT ☑ PAG     Custody Seal on Cooler/Box Present: □ Yes	No		5. Packing Material: Bubble Wrap	Bubbl		
(If yes)Seals Intact:  Yes  No (leave blank  3. Thermometer: 1 2 3 4 5 6 A B C D E F  4. Cooler Temperature:  (Initial/Corrected)		were prese	6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM		: 🗌 Yes	□ No
All	discrepanc	ies will be	written out in the comments section below.			
the second second second	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	1	<b>V</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	1	,	Headspace Wisconsin Sulfide?			1
Containers Intact?	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA VIak Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	$\checkmark$		Trip Blank Present?		J	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			
COMMENTS:						

COC PAGE _	of

## **Sample Container Count**

303
DI
MeOH
(only)
BK

\*\* Place a RED dot on containers

		Kit																								that a	re out of	conform	nance **
COC Line Item	WGFU		резн УСВН	VOA VIAL HS (>6mm)	VG9U	Desd	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit		HNO3/ H2SO4 pH <2	ZNAc	
1	1																									SL		11	
2			11 =																										
3																													
4																													
5																													
6				115																									
7																													
8																									1				
9																													
10																													
11																													
12																			1							1.71			

#### Container Codes

	Gla	SS			
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 HCI 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	1 liter 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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

## Plastic / Misc.

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

Syringe Kit LL Cr+6 sampling kit

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

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

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



January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306797001	E17S	Solid	01/07/22 13:55	01/11/22 13:10



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306797001	E17S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306797001	E17S					
EPA 6010	Arsenic	6.1	mg/kg	1.2	01/14/22 03:57	
EPA 6010	Barium	95.3	mg/kg	1.2	01/14/22 03:57	
EPA 6010	Chromium	26.4	mg/kg	1.2	01/14/22 03:57	
EPA 6010	Lead	92.7	mg/kg	1.2	01/14/22 03:57	
EPA 6010	Lithium	11.6	mg/kg	6.0	01/14/22 03:57	N2
SM 2540G	Percent Moisture	26.8	%	0.10	01/13/22 09:49	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Date: 01/18/2022 02:19 PM

Sample: E17S	Lab ID: 503	06797001	Collected: 01/07/2	2 13:55	Received: 01	/11/22 13:10 N	//atrix: Solid	•
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	I Services -	Indianapolis					
Arsenic	6.1	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:57	7440-38-2	
Barium	95.3	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:57	7440-39-3	
Cadmium	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:57	7440-43-9	
Chromium	26.4	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:57	7440-47-3	
Lead	92.7	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:57	7439-92-1	
Lithium	11.6	mg/kg	6.0	1	01/12/22 14:28	01/14/22 03:57	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:57	7782-49-2	
Silver	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:57	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.29	1	01/17/22 12:28	01/18/22 09:06	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	26.8	%	0.10	1		01/13/22 09:49		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306797

QC Batch:

658622

QC Batch Method: EPA 7471 Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

50306797001

Units

mg/kg

Matrix: Solid

Associated Lab Samples:

50306797001

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE:

Parameter

3034665

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Parameter

Units mg/kg

0.48

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

MSD

50306793001 Result

ND

Spike Conc.

0.72

MS Result

0.94

3034667

0.23

MS

48

MSD

% Rec

75-125

Max

RPD Qual

MS

Spike Conc.

0.69

Result 0.92

MSD

% Rec 105 % Rec 107 Limits **RPD** 

20 2

Date: 01/18/2022 02:19 PM

Mercury

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Date: 01/18/2022 02:19 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306797001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306797001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	√2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077	,						
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306797

QC Batch:

658420

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

50306797001 Associated Lab Samples:

Parameter

Parameter

SAMPLE DUPLICATE: 3033111

50306805001 Units

Dup

Max RPD RPD

Qualifiers

Percent Moisture

Result 20.5 Result 19.9

5 N2 3

SAMPLE DUPLICATE: 3033112

50306805002 Result

Dup Result 24.5

Max **RPD RPD** 

14

Qualifiers

Percent Moisture

SAMPLE DUPLICATE: 3033767

%

Units

%

50306793001 Result

Dup Result

RPD

Max RPD Qualifiers

5 N2,R1

Date: 01/18/2022 02:19 PM

Parameter Units Percent Moisture %

27.8

21.2

26.7

4

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

#### **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.

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

Date: 01/18/2022 02:19 PM

- 15 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- M<sub>0</sub> Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A N2

complete list of accreditations/certifications is available upon request.

RPD value was outside control limits. R1



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306797

Date: 01/18/2022 02:19 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306797001	E17S	EPA 3050	658262	EPA 6010	658576
50306797001	E17S	EPA 7471	658622	EPA 7471	658891
50306797001	E17S	SM 2540G	658420		

Pace Analytical*		ample via this Condition	chain of custod found at: https	ly constitutes a s://info.pacela	ytical Rec acknowledgment bs.com/hubfs/pa MENT - Comple	and acceptants-standard-te	nce of the F rms.pdf		s and			LAB USE C	ONLY- Aff	N. Carlotte St. Carlotte St. T.	Perun activities	bel Here o Number l	or List Pace Workorder Number or Here
Company: Mundell and Associate	es, Inc.		Billing Info							100		ALL	BOL	110#	. 5	200	16707
Address: 110 S Downey Ave, India	anapolis, IN 4621	9	110 5	Downey A	ve, Indianapo	olis, IN 462	19				-	Contain					06797
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.c	om					ve Types: (1)					
Сору То:			the second second second second	tion Info/A S. Hoyt	ddress:	Muncie, I	ndiana					, (7) sodium t m hydroxide,	(D) TSP	5030678	7		
Customer Project Name/Number: M20032 Muncie Phase II			2.3	County/Cit Muncie		Zone Coll		XJET					Analy	100		La	ab Sample Receipt Checklist: astody Seals Present/Intact Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellassoc	Site/Facility ID	#:			Complianc	e Monitori	ng?									Cu	ustody Signatures Present Y N NA ollector Signature Present Y N NA
Collected By (print): Luke Johnstone /Andy Miller	Purchase Orde Quote #:	er#:			DW PWS II					60108						Co	ottles Intact Y N NA prrect Bottles Y N NA ifficient Volume Y N NA
Collected By (signature)	Turnaround D	ate Requir	ed:		Immediate [x] Yes	ely Packed	on Ice:		Glass (G)	via EPA 6010B						VC	amples Received on Ice Y N NA DA - Headspace Acceptable Y N NA SDA Regulated Soils Y N NA
Sample Disposal: [ x ] Dispose as appropriate [ ] Return [ ] Archive:	Rush: (Expedi [ ] Same I [ ] 2 Day [ ] 4 Day	Day [ ] N			Field Filter [ ] Yes Analysis:	ed (if appli	cable):		Plastic (P) or G	Metals + Lithium						Sa Re C1 Sa ph	amples in Holding Time Y N NA ssidual Chlorine Present Y N NA I Strips: ample pH Acceptable Y N NA 4 Strips:
* Matrix Codes (Insert in Matrix b Product (P), Soil/Solid (SL), Oil (C							),		Type: P	00		-				Le	olfide Present Y N NA
Customer Sample ID	Matrix *	Comp / Grab	100	tted (or site Start)	Compo	site End	Res	# of Ctns	Container	Total RCRA							AB USE ONLY: ab Sample # / Comments: SCC SCUR
E17S	SL	Grab	1/7	13:55				1	G	×							001
																H	
																П	
Customer Remarks / Special Cond Total RCRA 8 Metals + Lithium		Hazards:	Type of Ice Packing M		Wet	Blue	Dry	None			1 2000	Tracking #:	100000000000000000000000000000000000000	(<72 hours) :	YN	N/A	Temp Blank Received: N NA Therm ID#: Cooler 1 Temp Upon Receipt: 0.6c
Relinquished by/Company:/Signa	ature)	Date			Received b						FE	ples receive EDEX U Daţe/Time	PS CII	ent Courier	Pace Co	ALC: UNKNOWN	Cooler 1 Therm Corr. Factor: 0 oc Cooler 1 Corrected Temp: 0 oc Comments:
duf gille			//ime:	0.31. 1	15				Pa	_	1/	11/22	,	Table #	t:		
Relinquished by/Company: (Signa	eture) — PW		/Time: /11/22	1310	Received by	y/Company	y: (Signa	iture)				Date/Time		Acctnu Templa Prelogi	ate:		Trip Blank Received: Y N NA HCL MeOH TSP Other
Relinquished by/Company: (Signa		_	e/Time:		Received b	y/Company	y:4signa	iture)				Date/Time		PM: PB:			Non Conformance(s): Page:

Pace Analytical

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC 2. Custody Seal on Cooler/Box Present: ☐ Yes	E □ U	ISPS	OTHER 5. Packing Material:	☑ Bubbl		
(If yes)Seals Intact:		were prese	6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM	notified?	:□ Yes	□ No
All	discrepanc	ies 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, DK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		1	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			/
Short Hold Time Analysis (48 hours or less)? Analysis:		/	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:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	\ \	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	1		Headspace Wisconsin Sulfide?			1
Containers Intact?:	1,		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sen
Sample Label (IDs/Dates/Times) Match COC?: except TCs, which only require sample ID	/		Trip Blank Present?		1	
extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC	PAGE	- 1	of	1

# Sample Container Count

MeOH (only) BK

\*\* Place a RED dot on containers

that	are	out (	of c	conf	orm	ance '
------	-----	-------	------	------	-----	--------

		Kit																									are out of		
COC Line Item	WGFU		DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	АВЗН	AG10	AGSU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	BP3B	BP3Z	ССЗН	Syringe Kit		HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1		- 1			77.				-1	-						115									SL			
2										100 (															<u></u> ,				1
3				-	1				-																		1	- 1	
4				- 7				-															-						
5			177	14,																-									
6																													
7																													
8																						1							
9																													
10																										-			
11																										-			
12	-			100		-			-			-										. 10							

#### Container Codes

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

# Plastic / Misc. BP4U 125mL unpreserved plastic

BP4N 125mL HNO3 plastic BP4S 125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306784001	= ====================================	Solid	01/07/22 13:45	01/11/22 13:10



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306784001	E34S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
	- I didilictors		Office	- Troport Limit	- Analyzed	- Qualificis
50306784001	E34S					
EPA 6010	Arsenic	6.5	mg/kg	1.2	01/14/22 03:37	
EPA 6010	Barium	70.1	mg/kg	1.2	01/14/22 03:37	
EPA 6010	Chromium	17.5	mg/kg	1.2	01/14/22 03:37	
EPA 6010	Lead	229	mg/kg	1.2	01/14/22 03:37	
EPA 6010	Lithium	9.9	mg/kg	6.0	01/14/22 03:37	N2
SM 2540G	Percent Moisture	28.9	%	0.10	01/13/22 09:05	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Date: 01/18/2022 02:13 PM

Sample: E34S	Lab ID: 503	06784001	Collected: 01/07/2	2 13:45	Received: 01	/11/22 13:10 N	Matrix: Solid	
Results reported on a "dry weig	ght" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	6.5	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:37	7440-38-2	
Barium	70.1	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:37	7440-39-3	
Cadmium	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:37	7440-43-9	
Chromium	17.5	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:37	7440-47-3	
Lead	229	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:37	7439-92-1	
Lithium	9.9	mg/kg	6.0	1	01/12/22 14:28	01/14/22 03:37	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:37	7782-49-2	
Silver	ND	mg/kg	0.60	1	01/12/22 14:28	01/14/22 03:37	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.28	1	01/17/22 12:26	01/18/22 08:08	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	28.9	%	0.10	1		01/13/22 09:05		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306784

QC Batch:

658620

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306784001

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306784001

Parameter

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

3034656

Spike Conc.

LCS

LCS % Rec % Rec Limits

Parameter Mercury

Parameter

Date: 01/18/2022 02:13 PM

Units mg/kg

0.48

Result 0.54

112

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034657

ND

MS

MSD Spike

MS

3034658

MSD Result MS

Max

50306781001 Units Result

mg/kg

Conc. 0.62

Result 0.71

MSD % Rec % Rec Limits

RPD

Mercury

Spike Conc.

0.59

0.70

% Rec 110

116 75-125

**RPD** 

Qual 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Date: 01/18/2022 02:13 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306784001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306784001

ъ.		Blank	Reporting		0 115
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	<b>\</b> 2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077	,						
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306784

QC Batch:

658416

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306784001

Parameter

Parameter

SAMPLE DUPLICATE: 3033756

50306781001 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Percent Moisture

Units %

16.4

16.6

4.8

5 N2

SAMPLE DUPLICATE: 3033791

50306879005

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Date: 01/18/2022 02:13 PM

Units %

Result 5.0

3

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

#### **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**

Date: 01/18/2022 02:13 PM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306784

Date: 01/18/2022 02:13 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306784001	E34S	EPA 3050	658262	EPA 6010	658576
50306784001	E34S	EPA 7471	658620	EPA 7471	658890
50306784001	E34S	SM 2540G	658416		

# Pace Analytical

Company: Mundell and Associates, Inc.

Report To: Luke Johnstone

Customer Project Name/Number:

M20032 Muncie Phase II

Phone: 317-630-9060

# **CHAIN-OF-CUSTODY Analytical Request Document**

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

NT - Complete all relevant fields

hain-of	·Custody is a LEGAL DOCUMEN
	Billing Information:

Address: 110 S Downey Ave, Indianapolis, IN 46219 110 S Downey Ave. Indianapolis, IN 46219

Email To: Liohnstone@mundellassociates.com

Site Collection Info/Address: Copy To:

3509 S. Hoyt

County/City: Muncie

Muncie, Indiana

1 1 No

[ ] No

Field Filtered (if applicable):

Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET

Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No Fmail: Liohnstone@mundellassociates.com

DW PWS ID #: Purchase Order # Collected By (print):

Luke Johnstone /Andy Miller DW Location Code: Quote #: Turnaround Date Required: Immediately Packed on Ice:

Rush: (Expedite Charges Apply) Sample Disposal

( x ) Dispose as appropriate [ | Same Day | | Next Day

[ ] Return [ 12 Day [ 13 Day | | Archive: [ ] 4 Day [ ] 5 Day

[ ] Hold:

Product (P), Soil/Solid (SL), C							,	
Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res	# of Ctns
			Date	Time	Date	Time	CI	
E34S	SL	Grab	1/7	13:45		1		1

Customer Remarks / Special Conditions / Possible Hazards:

Total RCRA 8 Metals + Lithium

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Type of Ice Used: Packing Material Used:

Date/Time:

1/11/22

Date/Time:

Date/Time:

Wet

[x] Yes

Analysis:

Blue Dry

None

Radchem sample(s) screened (<500 cpm): Y N NA

(220 | Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Samples received via:

Lab Tracking #:

FEDEX UPS

1/11/22

Date/Time:

Date/Time:

Date/Time:

Client Courier Pace Courier

SHORT HOLDS PRESENT (<72 hours): Y N N/A

MTJL LAB USE ONLY Table #:

Acctnum: Template:

Prelogin: PM: PB:

Trip Blank Received: Y N NA HCL MeOH TSP Other

Non Conformance(s): Page: YES / NO Page 12 of 14

Analyses

U

RCRA 8 Metals + Lithium via EPA 60108

Total

X

(9)

Glass

0

(b)

Plastic (

Container P.

\*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate. (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid. (B) ammonium sulfate (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

WO#:50306784

Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA Custody Signatures Present Y N NA Collector Signature Present Y N NA Bottles Intact Correct Bottles Y N NA Sufficient Volume Y N NA Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA

Samples in Holding Time Y N NA Residual Chlorine Present YNNA Cl Strips: Sample pH Acceptable Y N NA pH Strips: Y N NA

Sulfide Present Lead Acetate Strips:

Lab Profile/Line:

LAB USE ONLY: Lab Sample # / Comments:

SE SCUR

LAB Sample Temperature Info:

Temp Blank Received: 6

Cooler I Temp Upon Receipt:000

Gooler 1 Therm Corr. Pactor 6.6 Cooler 1 Corrected Temp: 0-600

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

Pace Analytical"

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents  1. Courier:   FED EX   UPS   CLIENT   PAG  2. Custody Seal on Cooler/Box Present:   Yes	CE U		OTHER 5. Packing Material:   Bubble Wrap	☑ Bubbl	-	
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABCDEF  4. Cooler Temperature: (Initial/Corrected)		vere prese	6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM		;□ Yes	; 🗆 No
All			written out in the comments section below.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been  CHECKED? exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A
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:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	$\checkmark$	Residual Chlorine Check (Total/Amenable/Free Cyanide)			
Custody Signatures Present?	<b>V</b>		Headspace Wisconsin Sulfide?			
Containers Intact?:	1,		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?		J	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			
COMMENTS:						

COC PAGE	of
OCCIACE	

# Sample Container Count

SBS DI MeOH (only) BK

" Place a RED dot on containers

		DIX	-																											ntainers
		Kit																								the	at are	e out of	conform	nance **
COC Line Item	WGFU	R		VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	вьзв	BP3Z	ССЗН	Syringe		는	H2SO4	NaOH/ ZNAc pH >9	NaOH pH>10
1	1															Œ										5	1			
2																														
3																										_	-			
4																										_	1			
5																											1			
6																										4	1			
7																										1				
8						-4																				4	4			
9																										4	4		- 4/	
10																										4	4			
11																										4				_
12												0.000						. =1							,					

Container Codes

	Gla	SS			
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 HCI 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	1 liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	Boz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	ВР3В	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass		250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

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

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306786001	E41S	Solid	01/07/22 13:35	01/11/22 13:10



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306786001	E41S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306786001	E41S					
EPA 6010	Arsenic	6.6	mg/kg	1.2	01/14/22 03:39	
EPA 6010	Barium	78.3	mg/kg	1.2	01/14/22 03:39	
EPA 6010	Chromium	13.8	mg/kg	1.2	01/14/22 03:39	
EPA 6010	Lead	57.3	mg/kg	1.2	01/14/22 03:39	
EPA 6010	Lithium	8.3	mg/kg	5.9	01/14/22 03:39	N2
SM 2540G	Percent Moisture	27.1	%	0.10	01/13/22 09:05	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Date: 01/18/2022 02:14 PM

Sample: E41S	Lab ID: 503	06786001	Collected: 01/07/2	2 13:35	Received: 01	/11/22 13:10 M	Matrix: Solid	
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	6.6	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:39	7440-38-2	
Barium	78.3	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:39	7440-39-3	
Cadmium	ND	mg/kg	0.59	1	01/12/22 14:28	01/14/22 03:39	7440-43-9	
Chromium	13.8	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:39	7440-47-3	
Lead	57.3	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:39	7439-92-1	
Lithium	8.3	mg/kg	5.9	1	01/12/22 14:28	01/14/22 03:39	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:39	7782-49-2	
Silver	ND	mg/kg	0.59	1	01/12/22 14:28	01/14/22 03:39	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/17/22 12:26	01/18/22 08:10	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	27.1	%	0.10	1		01/13/22 09:05		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306786

QC Batch:

658620

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306786001

50306786001

Blank Result Reporting

Limit Analyzed

Qualifiers

Mercury

Mercury

Units mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3034656

Units

mg/kg

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Units mg/kg

0.48

0.54

112 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034657

MSD

Spike Conc.

MS Result

3034658

MSD Result MSD

% Rec

Max **RPD** RPD

Qual

MS

50306781001 Result

ND

Spike Conc. 0.62

0.71 0.59

0.70

% Rec 110

MS

% Rec 116 Limits 75-125

20

Date: 01/18/2022 02:14 PM

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306786

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306786001

METHOD BLANK: 3033074 Matrix: Solid

3033075

mg/kg

Associated Lab Samples: 50306786001

LABORATORY CONTROL SAMPLE:

Silver

Date: 01/18/2022 02:14 PM

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	12
Selenium	mg/kg	47.3	48.2	102	80-120	

23.7

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033076 3033077														
			MS	MSD										
	5	0306781001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max			
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual		
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20			
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0		
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20			
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20			
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20			
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2		
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20			
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	20			

23.0

97

80-120

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



Project:

M20032 Muncie Phase II

50306786001

Pace Project No.:

50306786

QC Batch:

QC Batch Method:

658416

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

SAMPLE DUPLICATE: 3033756

50306781001 Result

Dup Result

RPD

Qualifiers

Percent Moisture

Units %

16.4

16.6

5 N2

SAMPLE DUPLICATE: 3033791

50306879005 Result

Dup Result

**RPD** 

Max **RPD** 

Max

RPD

Qualifiers

Date: 01/18/2022 02:14 PM

Parameter Percent Moisture

Parameter

Units %

5.0

4.8

3

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

#### **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**

Date: 01/18/2022 02:14 PM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306786

Date: 01/18/2022 02:14 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch		
50306786001	E41S	EPA 3050	658262	EPA 6010	658576		
50306786001	E41S	EPA 7471	658620	EPA 7471	658890		
50306786001	E41S	SM 2540G	658416				

Pace Analytical*		ample via this Condition	DF-CUSTODY Analytical Request Document this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and ons found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf ff-Custody is a LEGAL DOCUMENT - Complete all relevant fields							LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here										or	
Company: Mundell and Associates, Inc.  Billing Information:										ALL BC					0#	: 5	03	30(	6786		
Address: 110 S Downey Ave, India	anapolis, IN 4621	9	110 S	Downey A	ve, Indianap	olis, IN 462	219						tainer Pr							-	
Report To: Luke Johnstone	Report To: Luke Johnstone				Email To: Ljohnstone@mundellassociates.com								s: (1) nitric				Ш			te,	
Сору То:				tion Info/A W 26th St.		Muncie,	Indiana						xide, (D) T		0678	5		Bras	- Death h bear		
Customer Project Name/Number: M20032 Muncie Phase II			1000	County/Cit Muncie	J	e Zone Col T [ ]MT		X]ET						nalyses				Lak	b Profile/Line: b Sample Receipt Checkl: stody Seals Present/Int:		
Phone: 317-630-9060	Site/Facility ID	#:			Compliano	ce Monitor	ing?											Cus	stody Signatures Present	YNNA	
Email: Ljohnstone@mundellassoc	tiates.com				[ ] Yes	[ ] No				8		8 1			100				llector Signature Presenttles Intact	Y N NA	
Collected By (print): Purchase Order # : Luke Johnstone /Andy Miller Quote #:					DW PWS ID #: DW Location Code:					EPA 6010B								Con	rrect Bottles fficient Volume	Y N NA Y N NA	
Collected By (signature):	cted By (signature): Turnaround Date Requir				Immediately Packed on Ice:  [X] Yes [] No				lass (G	via EP/		1=						VO	mples Received on Ice A - Headspace Acceptable DA Regulated Soils	Y N NA Y N NA Y N NA	
Sample Disposal: [ x ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: (Expedi [ ] Same [ [ ] 2 Day [ ] 4 Day	Day [ ] N	lext Day		I 1Yes I 1No					+ Lithium								Sar Res C1 Sar pH	amples in Holding Time Y N NA ssidual Chlorine Present Y N NA I Strips: ample pH Acceptable Y N NA H Strips:		
* Matrix Codes (Insert in Matrix b Product (P), Soil/Solid (SL), Oil (G							/),		Type: PI	A 8 Metals				8					lfide Present ad Acetate Strips:	Y N NA	
Customer Sample ID	Matrix *	Comp / Grab	Colle	cted (or site Start)		osite End	Res	# of Ctns	Container	Total RCRA									B USE ONLY: b Sample # / Comments: SCC SCY	R	
E41S	SL	Grab	1/7	13:35				1	G	X						- 10					
	1			-	-		+		-				- 8					-11		-	
													- 19								
			-	-			-						- 0					-			
																8		- 0			
																-		- 10			
-				-	-		1											-11		-1,10	
Customer Remarks / Special Conditions / Possible Hazards: Total RCRA 8 Metals + Lithium			Type of Ice Used: Wet Blue Dry None Packing Material Used:  Radchem sample(s) screened (<500 cpm): Y N NA							B 5300	Trackir	LDS PRES	ENT (<72	hours)	: Y 1	N N	I/A	LAB Sample Temperature Info: Temp Blank Received: N NA Therm ID#: Cooler 1 Temp Upon Receipt: 0 6C			
	Samples received via: FEDEX UPS Clien								lient Courier Pace Courier				Cooler 1 Therm Corr. Factor 0.0 oc Cooler 1 Corrected Temp: 0.0 oc Comments:								
Relinquished by/Company: (Sign	Received by/Company: (Signature)					Date/Time: 1			1220	Table #:			ONLY								
Relinquished by/Company: (Sign	ature)	,	e/Time:	1310	Received to	Censor Constant		iture)				Date/1		3110	Temp Prelo	olate:			Trip Blank Received: HCL MeOH TSP		
Relinquished by/Company: (Sign		-	e/Time:		Received I			ature)				Date/1			PM: PB:					ige:	

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

Face Analytical

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents  1. Courier:   FED EX UPS CLIENT PA  2. Custody Seal on Cooler/Box Present:   Yes  (If yes)Seals Intact:   Yes No (leave blank)  3. Thermometer:   1 2 3 4 5 6 A B C D E F	No Seals v	5. Packing Material:	Bubbl						
4. Cooler Temperature: 0.6/0.6  Temp should be above freezing to 6°C (Initial/Corrected)	_		7. If temp. is over 6°C or under 0°C, was the PM		: 🗆 Yes	□ No			
All	discrepanc	ies will be	written out in the comments section below.						
Line and the second second	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)			-						
Short Hold Time Analysis (48 hours or less)? Analysis:									
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/			
Rush TAT Requested (4 days or less):	Residual Chlorine Check (Total/Amenable/Free Cyanide)		-3	1					
Custody Signatures Present?	$\vee$		Headspace Wisconsin Sulfide?						
Containers Intact?:	<b>V</b>		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sen			
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?	- 1	1				
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/			
COMMENTS:									

COC	PAGE	1	of	1
		_		_

# Sample Container Count

SBS DI MeOH (only)

\*\* Place a RED dot on containers

that are out of conform	ance	*
-------------------------	------	---

		Kit																									that a	are out of	conform	nance **
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DGBO	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1		-																								SL			
2																														1
3					1																									
4																														
5																								i	5-4					
6																												L,		
7																									- 19	114				
8				1	-																-							1-1-1		
9			Į.																							-				
10																				- 1										
11						-1																						1.23		
12	- 1					4			=															11.	# 11					

	Gla	SS			
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	врзв	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

j	Plas	tic / Misc.	
T	BP4U	125mL unpreserved plastic	
1	BP4N	125mL HNO3 plastic	

BP4S 125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306798001	E49S	Solid	01/07/22 13:25	01/11/22 13:10



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306798001	E49S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
	Farameters		Units	- Report Limit	Analyzeu	Qualifiers
50306798001	E49S					
EPA 6010	Arsenic	6.7	mg/kg	1.6	01/14/22 03:59	
EPA 6010	Barium	80.4	mg/kg	1.6	01/14/22 03:59	
EPA 6010	Chromium	14.6	mg/kg	1.6	01/14/22 03:59	
EPA 6010	Lead	37.3	mg/kg	1.6	01/14/22 03:59	
EPA 6010	Lithium	9.6	mg/kg	7.8	01/14/22 03:59	N2
SM 2540G	Percent Moisture	44.1	%	0.10	01/13/22 09:49	N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Date: 01/18/2022 02:20 PM

Sample: E49S	Lab ID: 503	06798001	Collected: 01/07/2	22 13:25	Received: 01	/11/22 13:10 N	//atrix: Solid	
Results reported on a "dry weig	ght" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	6.7	mg/kg	1.6	1	01/12/22 14:28	01/14/22 03:59	7440-38-2	
Barium	80.4	mg/kg	1.6	1	01/12/22 14:28	01/14/22 03:59	7440-39-3	
Cadmium	ND	mg/kg	0.78	1	01/12/22 14:28	01/14/22 03:59	7440-43-9	
Chromium	14.6	mg/kg	1.6	1	01/12/22 14:28	01/14/22 03:59	7440-47-3	
Lead	37.3	mg/kg	1.6	1	01/12/22 14:28	01/14/22 03:59	7439-92-1	
Lithium	9.6	mg/kg	7.8	1	01/12/22 14:28	01/14/22 03:59	7439-93-2	N2
Selenium	ND	mg/kg	1.6	1	01/12/22 14:28	01/14/22 03:59	7782-49-2	
Silver	ND	mg/kg	0.78	1	01/12/22 14:28	01/14/22 03:59	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.37	1	01/17/22 12:28	01/18/22 09:08	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	44.1	%	0.10	1		01/13/22 09:49		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306798

QC Batch:

658622

QC Batch Method: EPA 7471 Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306798001

Parameter

50306798001

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE:

3034665

Spike Conc.

LCS

LCS % Rec

MSD

% Rec Limits

Qualifiers

Parameter Mercury

Units mg/kg

0.48

Result 0.23

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

ND

MSD

50306793001 Parameter Units

mg/kg

MS

Spike Conc.

MS Result

3034667

0.92

48

MSD % Rec

% Rec Limits

Max **RPD** RPD

Mercury

Result

Spike Conc.

0.72

0.69

Result 0.94

% Rec 105

MS

107 75-125

Qual 20 2

Date: 01/18/2022 02:20 PM

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Date: 01/18/2022 02:20 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306798001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 1	N2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	CATE: 3033	076		3033077	,						
			MS	MSD								
	5	0306781001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306798

QC Batch:

658420

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Result

Pace Analytical Services - Indianapolis

50306798001 Associated Lab Samples:

Parameter

Parameter

SAMPLE DUPLICATE: 3033111

50306805001 Units

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

%

Units

%

20.5

21.2

19.9

24.5

3

14

5 N2

SAMPLE DUPLICATE: 3033112

50306805002 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

SAMPLE DUPLICATE: 3033767

Percent Moisture

50306793001

Dup Result

RPD

Max

Qualifiers

Date: 01/18/2022 02:20 PM

Parameter Percent Moisture

Units Result %

27.8

26.7

4

RPD

5 N2

5 N2,R1

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

#### **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**

Date: 01/18/2022 02:20 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306798

Date: 01/18/2022 02:20 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306798001	E49S	EPA 3050	658262	EPA 6010	658576
50306798001	E49S	EPA 7471	658622	EPA 7471	658891
50306798001	E49S	SM 2540G	658420		

Pace Analytical*		ample via this Conditions	chain of custod found at: https	y constitutes a ://info.pacelal	ytical Reconstruction of the second of the s	t and acceptan as-standard-ter	rms.pdf		and		7	LAB USE ONL	Y- Affin	Workore WO	#:	Label H	lere or ober He	List Pace Workorder Number or ere
Company: Mundell and Associate	s, Inc.		Billing Info	rmation:		S. A.C				ALL BO					11111			0,30
Address: 110 S Downey Ave, India	anapolis, IN 4621	9	110 S	Downey A	ve, Indianap	olis, IN 462	19					Container I	Pr .	030				
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.co	om			** Pre	servative	e Types: (1) nitr	-			'-	""	te,
Сору То:			The state of the s	tion Info/A S. Hoyt	ddress:	Muncie, I	ndiana			(6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) nexo, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other								
Customer Project Name/Number: M20032 Muncie Phase II			The state of the s	County/Cit Muncie	1000	Zone Colle	ected:	X ]ET					Analys	es			Lab	Profile/Line:  Sample Receipt Checklist: tody Seals Present/Intact Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellassoc	Site/Facility ID	#:				e Monitori	_										Cus	tody Signatures Present Y N NA lector Signature Present Y N NA tles Intact Y N NA
Collected By (print): Luke Johnstone /Andy Miller	Luke Johnstone /Andy Miller Quote #:			DW PWS ID #: DW Location Code:						4 6010B							Cor Suf	rect Bottles Y N NA ficient Volume Y N NA
Collected By (signature)					[x] Yes	Packed (			Glass (G)	via EPA							VOA	ples Received on Ice Y N NA - Headspace Acceptable Y N NA A Regulated Soils Y N NA
Sample Disposal: [ x ] Dispose as appropriate [ ] Return [ ] Archive:	Rush: (Expedi [ ]Same D [ ]2 Day   [ ]4 Day	ay [ ] N [ ] 3 Day			Field Filter [ ] Yes Analysis:	ed (if appli	cable):		Plastic (P) or G	Metals + Lithium							Res C1 Sam pH	ples in Holding Time Y N NA idual Chlorine Present Y N NA Strips: ple pH Acceptable Y N NA Strips:
* Matrix Codes (Insert in Matrix b Product (P), Soil/Solid (SL), Oil (C							),		Type: P	00			V				Lea	fide Present Y N NA d Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	tted (or site Start)	Compo	rime	Res	# of Ctns	Container	Total RCRA								SCL SCUR
E49S	SL	Grab	1/7	13:25				1	G	×								
Customer Remarks / Special Cond Total RCRA 8 Metals + Lithium	ditions / Possible	Hazards:	Type of Ice Packing M		Wet	Blue	Dry	None	210		Lab T	racking #:		<72 hours	s): Y	N N/	Ά	LAB Sample Temperature Info: Temp Blank Received: N NA Therm ID#: Cooler 1 Temp Upon Receipt: Occ Cooler 1 Therm Corr. Factor Occ
Relinquished by/Company: (Signa	iture)	Date	Radchem:		Received b	44.34		ture)	200		FEC	DEX UPS Date/Time:		~	MTJL LAE	0.000	-	Cooler 1 Corrected Temp: 0 6 oc Comments:
Relinquished by/Company: (Signal Relinquished by/Company: (Signal	- Yac	Date	/Time:	1310		y/Company y/Company	ne	ture)		_	C	Date/Time:	3:10	Acc	tnum: nplate: login:			Trip Blank Received: Y N NA HCL MeOH TSP Other  Non Conformance(s): Page:
														PB:				YES / NO Page 12 of 14

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

2. Custody Seal on Cooler/Box Present:  Yes  (If yes)Seals Intact:  Yes  No (leave blank  3. Thermometer:  123456 ABCDEF  4. Cooler Temperature:  (Initial/Corrected)		were pres	ent)  6. Ice Type: Wet Blue None  7. If temp. is over 6°C or under 0°C, was the PM	Other		□ No
All			e written out in the comments section below.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A
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:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	V	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	<b>V</b>		Headspace Wisconsin Sulfide?			/
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<b>V</b>		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)	0		Trip Blank Custody Seals?:		17 %	/
COMMENTS:						

COC	PAGE	1	of_	L

# **Sample Container Count**

DI MeOH (only)

\*\* Place a RED dot on containers

that are out of conformance \*\*

		Kit																									that a	re out of	contorn	rance -
COC   Line Item	WGFU	R	резн Усе	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	ВРЗО	BP3N	BP3F	BP3S	вьзв	BP3Z	CG3H	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	(														1		F							9		7 1	SL			
2											- 1																			
3					1																									1
4					- 7																									
5					-																								-	
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7																														
8			ļ=																											
9																						-		F						
10	- 11																													
11	- +	_																					_		1					
12				i in																										

Container Codes

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

F	Plas	tic / Misc.
Т	BP4U	125mL unpreserved plastic
1	BP4N	125mL HNO3 plastic
1	BP4S	125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306802001	E53S	Solid	01/07/22 13:05	01/11/22 13:10



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306802001	E53S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306802001	E53S					
EPA 6010	Arsenic	7.7	mg/kg	1.2	01/14/22 04:04	
EPA 6010	Barium	164	mg/kg	1.2	01/14/22 04:04	
EPA 6010	Cadmium	2.0	mg/kg	0.62	01/14/22 04:04	
EPA 6010	Chromium	18.8	mg/kg	1.2	01/14/22 04:04	
EPA 6010	Lead	157	mg/kg	1.2	01/14/22 04:04	
EPA 6010	Lithium	10.1	mg/kg	6.2	01/14/22 04:04	N2
SM 2540G	Percent Moisture	29.4	%	0.10	01/13/22 09:49	N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Date: 01/18/2022 02:20 PM

Sample: E53S	Lab ID: 503	06802001	Collected: 01/07/2	22 13:05	Received: 01	I/11/22 13:10 I	Matrix: Solid	
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	7.7	mg/kg	1.2	1	01/12/22 14:28	01/14/22 04:04	7440-38-2	
Barium	164	mg/kg	1.2	1	01/12/22 14:28	01/14/22 04:04	7440-39-3	
Cadmium	2.0	mg/kg	0.62	1	01/12/22 14:28	01/14/22 04:04	7440-43-9	
Chromium	18.8	mg/kg	1.2	1	01/12/22 14:28	01/14/22 04:04	7440-47-3	
Lead	157	mg/kg	1.2	1	01/12/22 14:28	01/14/22 04:04	7439-92-1	
Lithium	10.1	mg/kg	6.2	1	01/12/22 14:28	01/14/22 04:04	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 04:04	7782-49-2	
Silver	ND	mg/kg	0.62	1	01/12/22 14:28	01/14/22 04:04	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.28	1	01/17/22 12:28	01/18/22 09:13	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	29.4	%	0.10	1		01/13/22 09:49		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306802

QC Batch:

658622

QC Batch Method: EPA 7471 Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

50306802001 Associated Lab Samples:

METHOD BLANK:

Matrix: Solid

ND

Associated Lab Samples: 50306802001

Parameter Units

Reporting Limit

Analyzed

0.19 01/18/22 08:37

Qualifiers

Mercury mg/kg

LABORATORY CONTROL SAMPLE:

Parameter

Date: 01/18/2022 02:20 PM

3034665

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury 0.48 0.23 48 80-120 L5 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

50306793001 Parameter Units Result

MS Spike Conc.

MSD Spike Conc.

MS Result

3034667

MSD Result

MSD % Rec

MS

% Rec

% Rec Limits

Max **RPD** RPD

2

Qual

20

ND 0.94 105 Mercury mg/kg 0.72 0.69 0.92 107 75-125

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Date: 01/18/2022 02:20 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306802001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306802001

ъ.		Blank	Reporting		0 115
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	<b>l</b> 2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077	,						
	5	MS 50306781001 Spike		MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306802

QC Batch: 658420

QC Batch Method: SM 2540G

Analysis Method: S

Analysis Description:

SM 2540G Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306802001

SAMPLE DUPLICATE: 3033111

50306805001 Dup Max RPD RPD Parameter Units Result Result Qualifiers 20.5 5 N2 Percent Moisture % 19.9 3

SAMPLE DUPLICATE: 3033112

50306805002 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers 21.2 % Percent Moisture 24.5 14 5 N2,R1

SAMPLE DUPLICATE: 3033767

Date: 01/18/2022 02:20 PM

50306793001 Dup Max Result RPD RPD Parameter Units Result Qualifiers Percent Moisture % 27.8 26.7 4 5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

#### **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**

Date: 01/18/2022 02:20 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306802

Date: 01/18/2022 02:20 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306802001	E53S	EPA 3050	658262	EPA 6010	658576
50306802001	E53S	EPA 7471	658622	EPA 7471	658891
50306802001	E53S	SM 2540G	658420		

Pace Analytical"		Conditions	-CUSTOE chain of custod found at: https: custody is a LE	y constitutes a ://info.pacelab	cknowledgmen os.com/hubfs/p	t and accepta as-standard-t	erms.pdf		and			LAB USE	ONLY- Affix	M	TJL Log-i	n Numbe		mber or			
Company: Mundell and Associates	, Inc.	Chaireore	Billing Info		izivi - compi	ere an relevi	ant news					ΔΗ	BOLE	MU	+ . :	303	306802	100			
Address: 110 S Downey Ave, India		9	1105	Downey Av	ve, Indianap	olis, IN 46	219						ner Preser	11811	1111	11111		-			
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.	com			10000		ve Types: (1	) nitric acid	50306802							
Сору То:			Site Collect	tion Info/A W 17th St.		Muncie,	Indiana			1000				Unpreserved							
Customer Project Name/Number: M20032 Muncie Phase II			The state of the s	County/City Muncie	* 1000	e Zone Co		X 1ET					Analys	es			Lab Profile/Line: Lab Sample Receipt Ch Custody Seals Present				
Phone: 317-630-9060	Site/Facility ID	#:			Complian	e Monitor	ring?										Custody Signatures Pr Collector Signature P	esent Y N NA			
Email: Ljohnstone@mundellassocia Collected By (print):	Purchase Orde	er#:			DW PWS	[ ] No D#:				108							Bottles Intact Correct Bottles	Y N NA AN N Y			
Luke Johnstone /Andy Miller Collected By (signature):	Quote #: Turnaround Da	ate Requir	ed:		DW Locati	ely Packed			Glass (G)	EPA 60108							Sufficient Volume Samples Received on I VOA - Headspace Accep				
Sample Disposal:  [ x ] Dispose as appropriate  [ ] Return  [ ] Archive:	Rush: (Expedir [ ] Same D [ ] 2 Day [ [ ] 4 Day [	ay [ ] N [ ] 3 Day			[x] Yes Field Filte [ ] Yes Analysis:	[ ] No	licable):		Container Type: Plastic (P) or Glas	als + Lithium via							USDA Regulated Soils Samples in Holding Ti Residual Chlorine Pre Cl Strips: Sample pH Acceptable pH Strips:	Y N NA ne Y N NA sent Y N NA			
	isert in Matrix box below): Drinking Water (DW), Ground Wat /Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay				GW), Wastewater (WW), Vapor (V), Other (OT)					Total RCRA 8 Metals						ш	Sulfide Present Lead Acetate Strips:	Y N NA			
Customer Sample ID	Matrix *	Comp / Grab		ted (or site Start)	Compo	osite End	Res	# of Ctns	ontainer	Fotal RCF							LAB USE ONLY: Lab Sample # / Commen				
E53S	SL	Grab	1/7	13:05				1	G	X						Н	See 50	- un			
										1											
							+									Н					
		11.11																			
				-		-	+	-									1				
																Н					
Customer Remarks / Special Cond Total RCRA 8 Metals + Lithium		Hazards:	Type of Ice Packing M	e Used: aterial Use	Wet	Blue	Dry	None			-	RT HOLDS		<72 hours) :	YN	N/A	LAB Sample Temperat Temp Blank Receiv Therm ID#:	ed: O N N			
(			Radchem	sample(s) s	creened (<	500 cpm):	Y	N NA			1 00000	ples receiv		nt Courie	r Pace (	Courier	Cooler 1 Temp Upo Cooler 1 Therm Co Cooler 1 Correcte Comments:	rr. Factorio			
Relinquished by/Company: (Sigha	ture)		e/Time:	1220	Received to	y/Compa	y: (Sign:		Oa			Date/Time	1 4-	J M Table		JSE ONLY					
Relinquished by/Company: (Signa		Dat	e/Time:	1310	Received to	11			-			Date/Time		Acctn	ium: olate:		Trip Blank Rece HCL MeOH				
Relinquished by/Company: (Signa	inquished by/Company: (Signature)			Date/Time: Received by/Company: (Signature)						1 40000						Non Conformance(s) YES / NO	Page: Page 12 of 14				

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

Pace Analytical

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents  1. Courier:   FED EX UPS CLIENT PAR  2. Custody Seal on Cooler/Box Present:   Yes  (If yes) Seals Intact:   Yes No (leave blank)  3. Thermometer:   1 2 3 4 5 6 A B C D E F  4. Cooler Temperature:   Temp should be above freezing to 6°C (Initial/Corrected)	No Seals	ISPS [	OTHER 5. Packing Material:   Bubble Wrap  None	☑ Bubbl ☐ Other		□ No
All	discrepanc	ies will be	written out in the comments section below.		_	
bearing and a second	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)		1	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.		1	
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:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	<b>\</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	$\vee$	11000	Headspace Wisconsin Sulfide?			1
Containers Intact?:	$\int_{I}$		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vlas Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	J	li ==	Trip Blank Present?		J	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC	PAGE	of	
000	I HOL _		_

# Sample Container Count

SBS DI MeOH (only)

\*\* Place a RED dot on containers

that	are	out	of	con	on	mance	*
------	-----	-----	----	-----	----	-------	---

		Kit																									that a	re out of	conform	nance "
COC Line Item	WGFU	R	резн Уезн	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	BP3B	BP3Z	ССЗН	Syringe Kit			HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			1 111 1	101	k L																						SL			
2			1																											
3																														
4					Hil	1										1 - 1		15												
5																											i ci			
6																		111									Щ			
7		7			9.		12.0									=													ļ <sup>1</sup>	
8																										100				
9																(1)														
10																														
11													JĖ.					1-												
12						4																								

		SS				Plas	tic / Misc.
DG9H	40mL HCI amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved p
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syring	e Kit LL Cr+6 samplin
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	С	Air Cassettes
1	40mL w/hexane wipe vial	AG1U	1 liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na T
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Summa Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziploc Bag
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		
3G1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
3G1S	1L H2SO4 clear glass		250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL	Solid
3N	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	OL Non-aqueous lic

۲	ıas	tic / Wilsc.	
	BP4U	125mL unpreserved plastic	
	BP4N	125mL HNO3 plastic	
	BP4S	125mL H2SO4 plastic	

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







## **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306780001	E56S	Solid	01/07/22 12:30	01/11/22 13:10
50306780002	E57S	Solid	01/07/22 12:35	01/11/22 13:10



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306780001	E56S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306780002	E57S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
50306780001	E56S						
EPA 6010	Arsenic	9.8	mg/kg	1.4	01/14/22 03:16		
EPA 6010	Barium	387	mg/kg	1.4	01/14/22 03:16		
EPA 6010	Cadmium	1.2	mg/kg	0.68	01/14/22 03:16		
EPA 6010	Chromium	20.9	mg/kg	1.4	01/14/22 03:16		
EPA 6010	Lead	183	mg/kg	1.4	01/14/22 03:16		
EPA 6010	Lithium	15.0	mg/kg	6.8	01/14/22 03:16	N2	
SM 2540G	Percent Moisture	29.6	%	0.10	01/13/22 09:03	N2	
60306780002	E57S						
EPA 6010	Arsenic	9.2	mg/kg	1.3	01/14/22 03:18		
EPA 6010	Barium	190	mg/kg	1.3	01/14/22 03:18		
EPA 6010	Cadmium	1.7	mg/kg	0.65	01/14/22 03:18		
EPA 6010	Chromium	17.3	mg/kg	1.3	01/14/22 03:18		
EPA 6010	Lead	130	mg/kg	1.3	01/14/22 03:18		
EPA 6010	Lithium	11.1	mg/kg	6.5	01/14/22 03:18	N2	
SM 2540G	Percent Moisture	30.9	%	0.10	01/13/22 09:03	N2	



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Date: 01/18/2022 02:13 PM

Sample: E56S	Lab ID: 503	06780001	Collected: 01/07/2	22 12:30	Received: 01	/11/22 13:10 M	Matrix: Solid	
Results reported on a "dry wei	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	9.8	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:16	7440-38-2	
Barium	387	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:16	7440-39-3	
Cadmium	1.2	mg/kg	0.68	1	01/12/22 14:28	01/14/22 03:16	7440-43-9	
Chromium	20.9	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:16	7440-47-3	
Lead	183	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:16	7439-92-1	
Lithium	15.0	mg/kg	6.8	1	01/12/22 14:28	01/14/22 03:16	7439-93-2	N2
Selenium	ND	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:16	7782-49-2	
Silver	ND	mg/kg	0.68	1	01/12/22 14:28	01/14/22 03:16	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	01/17/22 12:26	01/18/22 07:48	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	29.6	%	0.10	1		01/13/22 09:03		N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Date: 01/18/2022 02:13 PM

Sample: E57S Results reported on a "dry weight	Lab ID: 503		Collected: 01/07/2				Matrix: Solid	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	110 Preparation Meth	nod: EP/	A 3050		-	
	Pace Analytica	l Services -	Indianapolis					
Arsenic	9.2	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:18	7440-38-2	
Barium	190	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:18	7440-39-3	
Cadmium	1.7	mg/kg	0.65	1	01/12/22 14:28	01/14/22 03:18	7440-43-9	
Chromium	17.3	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:18	7440-47-3	
Lead	130	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:18	7439-92-1	
Lithium	11.1	mg/kg	6.5	1	01/12/22 14:28	01/14/22 03:18	7439-93-2	N2
Selenium	ND	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:18	7782-49-2	
Silver	ND	mg/kg	0.65	1	01/12/22 14:28	01/14/22 03:18	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
·	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	01/17/22 12:26	01/18/22 07:56	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	30.9	%	0.10	1		01/13/22 09:03		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306780

QC Batch: QC Batch Method:

METHOD BLANK:

658620

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306780001, 50306780002

Matrix: Solid

Associated Lab Samples:

50306780001, 50306780002

Blank

Result

Reporting

Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3034656

Spike Conc.

LCS

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Units mg/kg

0.48

Result 0.54

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034657

MSD

50306781001

ND

Spike

MS Result

MSD Result

112

MSD

% Rec

Max

Units Result

MS Spike Conc.

0.62

Conc.

MS % Rec 110

% Rec

**RPD** Limits

RPD

Mercury

mg/kg

0.59

0.71

3034658

0.70

116

75-125

Qual 20

Date: 01/18/2022 02:13 PM

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306780

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306780001, 50306780002

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306780001, 50306780002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

	LABORATORY	CONTROL	SAMPLE:	3033075
--	------------	---------	---------	---------

Date: 01/18/2022 02:13 PM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077							
Parameter	50 Units	0306781001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	MO
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306780

QC Batch:

658416

QC Batch Method:

Analysis Method:

SM 2540G

SM 2540G

Analysis Description:

16.4

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306780001, 50306780002

SAMPLE DUPLICATE: 3033756

50306781001 Result

Dup Result

RPD

Max RPD

5 N2

Qualifiers

SAMPLE DUPLICATE: 3033791

Date: 01/18/2022 02:13 PM

50306879005 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Percent Moisture

Parameter Percent Moisture

Parameter

Units %

Units

%

5.0

4.8

16.6

3

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

#### **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**

Date: 01/18/2022 02:13 PM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306780

Date: 01/18/2022 02:13 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306780001	E56S	EPA 3050	658262	EPA 6010	658576
50306780002	E57S	EPA 3050	658262	EPA 6010	658576
50306780001	E56S	EPA 7471	658620	EPA 7471	658890
50306780002	E57S	EPA 7471	658620	EPA 7471	658890
50306780001	E56S	SM 2540G	658416		
50306780002	E57S	SM 2540G	658416		

# Pace Analytical

Reli

Relinquished by/Company: (Signature)

Company: Mundell and Associates, Inc.

Address: 110 S Downey Ave, Indianapolis, IN 46219

#### CHAIN-OF-CUSTODY Analytical Request Document

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

110 S Downey Ave, Indianapolis, IN 46219

Billing Information:

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

AII	DOL		$\sim$	-
ALL	RC H	.,		
7	-	-		

WO#:50306780

Container Preservative Type

Email To: Liohnstone@mundellassociates.com Report To: Luke Johnstone \*\* Preservative Types: (1) nitric acid, (2) sulfuric (6) methanol, (7) sodium bisulfate, (8) sodium th Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpresent 1213 W 23rd St. Muncie, Indiana Lab Profile/Line: Analyses Time Zone Collected: Customer Project Name/Number: County/City: Lab Sample Receipt Checklist: M20032 Muncie Phase II / Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Compliance Monitoring? Site/Facility ID # Custody Signatures Present Y N NA Collector Signature Present Email: Ljohnstone@mundellassociates.com I I Yes | I No 60108 Bottles Intact Purchase Order # DW PWS ID #: Collected By (print): Correct Bottles Y N NA Luke Johnstone /Andy Miller DW Location Code: Sufficient Volume Quote #: Y N NA Glass (G) EPA Samples Received on Ice Y N NA Collected By (signature): Turnaround Date Required: Immediately Packed on Ice: VOA - Headspace Acceptable Y N NA [x] Yes [ ] No via USDA Regulated Soils YNNA Rush: (Expedite Charges Apply) Field Filtered (if applicable): Sample Disposal! Metals + Lithium Samples in Holding Time Y N NA 0 1 | Yes | | No [ x ] Dispose as appropriate [ | Same Day | | Next Day Residual Chlorine Present Y N NA Plastic (P) Cl Strips: [ ] Return [ 12 Day | 13 Day Sample pH Acceptable | | Archive: [ ] 4 Day [ ] 5 Day Analysis: pH Strips: [ ] Hold: Y N NA Sulfide Present Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Lead Acetate Strips: Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) LAB USE ONLY: Comp / Collected (or # of Composite End Sec Scup 001 Lab Sample # / Comments: Matrix \* CI Total Customer Sample ID Grab Composite Start) Ctns Time 1 G X 12:30 SL E56S 1/7 Grab SL Grab 1/7 12:35 G E575 LAB Sample Temperature Info; Temp Blank Reserved: Therm ID#: Cooler 1 Temp Upon Receipt: 0.00 Cooler I Therm Corr. Factor 00 o

tomer Remarks / Special Conditions / Possible Hazards.	Type of Ice Used: Wet Blue Dry None	SHORT HOLDS PRESENT ( 2 hours): Y N N/A</th
Total RCRA 8 Metals + Lithium	Packing Material Used:	Lab Tracking #:
	Radchem sample(s) screened (<500 cpm): Y N NA	Samples received via: FEDEX UPS Client Courier Pace Courier
	e/Time: 12 20 Received by/Company: (Signature)	Date/Time: 1220 MTJL LAB USE ONLY
any care	11/22	// r/ Table #:

Relinquished by/Company: (Signature) Date/Time: Received by/Company: (Signature)

Date/Time: Acctnum: Template: Prelogin: PM: Date/Time:

PB:

Trip Blank Received: Y N NA HCL MeOH TSP Other

Non Conformance(sPageat& of 15 YES / NO

Pace Analytical"

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	E U	SPS [	OTHER5. Packing Material:	☐ Bubble Wrap	Bubble	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	₩ No			None	☐ Other	-	
(If yes)Seals Intact:	if no seals v	vere preso	/				
3. Thermometer: 123456 ABCDEF			6. Ice Type: 🗹 Wet	☐ Blue ☐ None			
4. Cooler Temperature: 0.6/0.6  Temp should be above freezing to 6°C (Initial/Corrected)	-		7. If temp. is over 6°C or t	under 0°C, was the PN	1 notified?:	☐ Yes	□ No
All	discrepanc	ies 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)		1	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, container with a septum cap or preserved with H	O&G, and any			1
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/Z Any non-conformance to pH recommendations will b count form				/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	/	Residual Chlorine Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	$\checkmark$	Residual Chlorine Check (Total/Amenable/Free	Cyanide)	1		1
Custody Signatures Present?	1		Headspace Wisconsin Sulfide?			19.0	1
Containers Intact?	1		Headspace in VOA Vials (>6mm): See Containter Count form for details		Present	Absent	No VOA Via/s Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID			Trip Blank Present?			1	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:				/
COMMENTS:							

COC	PAGE	of	
			_

# Sample Container Count

		SBS DI MeOH (only) BK Kit																											ontainers nance **
COC Line Item	WGFU	R	реэн Усэн	VOA VIAL HS (>6mm)	VG9V	Desd	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit	Matrix		NaOH/ ZNAc	-
1	1				11		17							11												SL			
2	1																									1			
3																													
4																													
5																													
6														111					13										
7																													
8																												ļ	
9																												-	-
10																											-		
11																													

#### Container Codes

	Gla				
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
NGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
NGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	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
3G1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

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

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306779001	E64S	Solid	01/07/22 11:10	01/11/22 13:10
50306779002	E65S	Solid	01/07/22 11:15	01/11/22 13:10
50306779003	E66S	Solid	01/07/22 11:20	01/11/22 13:10
50306779004	DUP4	Solid	01/07/22 08:00	01/11/22 13:10



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306779001	E64S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306779002	E65S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306779003	E66S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306779004	DUP4	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306779001	E64S					
EPA 6010	Arsenic	8.2	mg/kg	1.1	01/14/22 03:07	
EPA 6010	Barium	180	mg/kg	1.1	01/14/22 03:07	
EPA 6010	Cadmium	0.98	mg/kg	0.56	01/14/22 03:07	
EPA 6010	Chromium	18.4	mg/kg	1.1	01/14/22 03:07	
EPA 6010	Lead	454	mg/kg	1.1	01/14/22 03:07	
EPA 6010	Lithium	10.1	mg/kg	5.6	01/14/22 03:07	N2
EPA 7471	Mercury	0.30	mg/kg	0.25	01/18/22 07:38	
SM 2540G	Percent Moisture	21.9	%	0.10	01/13/22 09:03	N2
0306779002	E65S					
EPA 6010	Arsenic	9.0	mg/kg	1.4	01/14/22 03:09	
EPA 6010	Barium	179	mg/kg	1.4	01/14/22 03:09	
EPA 6010	Cadmium	0.82	mg/kg	0.72	01/14/22 03:09	
EPA 6010	Chromium	18.0	mg/kg	1.4	01/14/22 03:09	
EPA 6010	Lead	177	mg/kg	1.4	01/14/22 03:09	
EPA 6010	Lithium	10.2	mg/kg	7.2	01/14/22 03:09	N2
SM 2540G	Percent Moisture	36.8	%	0.10	01/13/22 09:03	N2
0306779003	E66S					
EPA 6010	Arsenic	7.9	mg/kg	1.1	01/14/22 03:11	
PA 6010	Barium	179	mg/kg	1.1	01/14/22 03:11	
EPA 6010	Cadmium	1.3	mg/kg	0.57	01/14/22 03:11	
EPA 6010	Chromium	15.4	mg/kg	1.1	01/14/22 03:11	
EPA 6010	Lead	224	mg/kg	1.1	01/14/22 03:11	
EPA 6010	Lithium	8.9	mg/kg	5.7	01/14/22 03:11	N2
SM 2540G	Percent Moisture	21.3	%	0.10	01/13/22 09:03	N2
0306779004	DUP4					
EPA 6010	Arsenic	8.3	mg/kg	1.3	01/14/22 03:14	
EPA 6010	Barium	174	mg/kg	1.3	01/14/22 03:14	
EPA 6010	Cadmium	0.74	mg/kg	0.64	01/14/22 03:14	
EPA 6010	Chromium	18.6	mg/kg	1.3	01/14/22 03:14	
EPA 6010	Lead	161	mg/kg	1.3	01/14/22 03:14	
EPA 6010	Lithium	9.4	mg/kg	6.4	01/14/22 03:14	N2
SM 2540G	Percent Moisture	21.5	%	0.10	01/13/22 09:03	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

Sample: E64S	Lab ID: 503	06779001	Collected: 01/07/2	2 11:10	Received: 01	/11/22 13:10 N	fatrix: Solid	•			
Results reported on a "dry we	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050										
	Pace Analytica	l Services -	Indianapolis								
Arsenic	8.2	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:07	7440-38-2				
Barium	180	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:07	7440-39-3				
Cadmium	0.98	mg/kg	0.56	1	01/12/22 14:28	01/14/22 03:07	7440-43-9				
Chromium	18.4	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:07	7440-47-3				
Lead	454	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:07	7439-92-1				
Lithium	10.1	mg/kg	5.6	1	01/12/22 14:28	01/14/22 03:07	7439-93-2	N2			
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:07	7782-49-2				
Silver	ND	mg/kg	0.56	1	01/12/22 14:28	01/14/22 03:07	7440-22-4				
7471 Mercury	Analytical Meth	nod: EPA 74	171 Preparation Meth	od: EP	A 7471						
	Pace Analytica	l Services -	Indianapolis								
Mercury	0.30	mg/kg	0.25	1	01/17/22 12:26	01/18/22 07:38	7439-97-6				
Percent Moisture	Analytical Meth	nod: SM 25	40G								
	Pace Analytica	l Services -	Indianapolis								
Percent Moisture	21.9	%	0.10	1		01/13/22 09:03		N2			



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

Sample: E65S	Lab ID: 503	06779002	Collected: 01/07/2	2 11:15	Received: 01	I/11/22 13:10 I	Matrix: Solid				
Results reported on a "dry weig	ht" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050										
	Pace Analytica	l Services -	Indianapolis								
Arsenic	9.0	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:09	7440-38-2				
Barium	179	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:09	7440-39-3				
Cadmium	0.82	mg/kg	0.72	1	01/12/22 14:28	01/14/22 03:09	7440-43-9				
Chromium	18.0	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:09	7440-47-3				
Lead	177	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:09	7439-92-1				
Lithium	10.2	mg/kg	7.2	1	01/12/22 14:28	01/14/22 03:09	7439-93-2	N2			
Selenium	ND	mg/kg	1.4	1	01/12/22 14:28	01/14/22 03:09	7782-49-2				
Silver	ND	mg/kg	0.72	1	01/12/22 14:28	01/14/22 03:09	7440-22-4				
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471						
	Pace Analytica	l Services -	Indianapolis								
Mercury	ND	mg/kg	0.31	1	01/17/22 12:26	01/18/22 07:41	7439-97-6				
Percent Moisture	Analytical Meth	nod: SM 254	10G								
	Pace Analytica	l Services -	Indianapolis								
Percent Moisture	36.8	%	0.10	1		01/13/22 09:03		N2			



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

Sample: E66S Results reported on a "dry weig	Lab ID: 503		Collected: 01/07/2	_			Matrix: Solid				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050										
	Pace Analytica		•								
Arsenic	7.9	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:11	7440-38-2				
Barium	179	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:11	7440-39-3				
Cadmium	1.3	mg/kg	0.57	1	01/12/22 14:28	01/14/22 03:11	7440-43-9				
Chromium	15.4	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:11	7440-47-3				
Lead	224	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:11	7439-92-1				
Lithium	8.9	mg/kg	5.7	1	01/12/22 14:28	01/14/22 03:11	7439-93-2	N2			
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:11	7782-49-2				
Silver	ND	mg/kg	0.57	1	01/12/22 14:28	01/14/22 03:11	7440-22-4				
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471						
•	Pace Analytica	l Services -	Indianapolis								
Mercury	ND	mg/kg	0.25	1	01/17/22 12:26	01/18/22 07:43	7439-97-6				
Percent Moisture	Analytical Meth	nod: SM 254	40G								
	Pace Analytica	l Services -	Indianapolis								
Percent Moisture	21.3	%	0.10	1		01/13/22 09:03	}	N2			



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

Sample: DUP4 Results reported on a "dry weig	Lab ID: 503		Collected: 01/07/2				Matrix: Solid					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual				
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050											
	Pace Analytical Services - Indianapolis											
Arsenic	8.3	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:14	7440-38-2					
Barium	174	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:14	7440-39-3					
Cadmium	0.74	mg/kg	0.64	1	01/12/22 14:28	01/14/22 03:14	7440-43-9					
Chromium	18.6	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:14	7440-47-3					
Lead	161	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:14	7439-92-1					
Lithium	9.4	mg/kg	6.4	1	01/12/22 14:28	01/14/22 03:14	7439-93-2	N2				
Selenium	ND	mg/kg	1.3	1	01/12/22 14:28	01/14/22 03:14	7782-49-2					
Silver	ND	mg/kg	0.64	1	01/12/22 14:28	01/14/22 03:14	7440-22-4					
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	\ 7471							
•	Pace Analytica	l Services -	Indianapolis									
Mercury	ND	mg/kg	0.24	1	01/17/22 12:26	01/18/22 07:46	7439-97-6					
Percent Moisture	Analytical Meth	nod: SM 254	40G									
	Pace Analytica	l Services -	Indianapolis									
Percent Moisture	21.5	%	0.10	1		01/13/22 09:03		N2				



Project:

M20032 Muncie Phase II

Pace Project No.:

QC Batch Method:

QC Batch:

50306779

658620

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306779001, 50306779002, 50306779003, 50306779004

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306779001, 50306779002, 50306779003, 50306779004

Blank Result Reporting

Parameter

Units

Limit

Analyzed

Qualifiers

Mercury

Mercury

mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

3034656

Spike Conc.

0.62

LCS Result

LCS % Rec

MSD

Result

0.70

% Rec Limits

Qualifiers

Parameter Mercury

Date: 01/18/2022 02:13 PM

Units mg/kg

0.48

0.54

112

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034657

MSD

50306781001 Parameter Units Result

mg/kg

MS Spike Conc.

ND

Spike Conc.

0.59

MS Result 0.71

3034658

MS % Rec

110

MSD % Rec

116

% Rec Limits

75-125

Max **RPD** RPD

Qual 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306779001, 50306779002, 50306779003, 50306779004

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306779001, 50306779002, 50306779003, 50306779004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075			
		Spike	LCS	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N2	
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3033	076		3033077							
	E	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306779

QC Batch: 658416

QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Indianapolis

SM 2540G

Associated Lab Samples: 50306779001, 50306779002, 50306779003, 50306779004

SAMPLE DUPLICATE: 3033756

 Parameter
 Units
 50306781001 Result
 Dup Result
 Max RPD
 RPD
 Qualifiers

 Percent Moisture
 %
 16.4
 16.6
 1
 5 N2

Analysis Method:

SAMPLE DUPLICATE: 3033791

Date: 01/18/2022 02:13 PM

		50306879005	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	5.0	4.8	3		5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

#### **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**

Date: 01/18/2022 02:13 PM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306779

Date: 01/18/2022 02:13 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306779001	E64S	EPA 3050	658262	EPA 6010	658576
50306779002	E65S	EPA 3050	658262	EPA 6010	658576
50306779003	E66S	EPA 3050	658262	EPA 6010	658576
50306779004	DUP4	EPA 3050	658262	EPA 6010	658576
50306779001	E64S	EPA 7471	658620	EPA 7471	658890
50306779002	E65S	EPA 7471	658620	EPA 7471	658890
50306779003	E66S	EPA 7471	658620	EPA 7471	658890
50306779004	DUP4	EPA 7471	658620	EPA 7471	658890
50306779001	E64S	SM 2540G	658416		
50306779002	E65S	SM 2540G	658416		
50306779003	E66S	SM 2540G	658416		
50306779004	DUP4	SM 2540G	658416		

# Pace Analytical

Customer Remarks / Special Conditions / Possible Hazards:

Total RCRA 8 Metals + Lithium

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

# **CHAIN-OF-CUSTODY Analytical Request Document**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and

			found at: https: ustody is a LE													. ~	
Company: Mundell and Associate Address: 110 S Downey Ave, India		9	Billing Infor		ve, Indianap	olis, IN 462	19							Ш			
Address: 1103 Downey Ave, mais	1100013, 114 4021	1	1	12200	C. Darring	0.00,00.000				50	3067	79	1	200	-12		
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.co	om									cid. (3) hyd	
Сору То:			Site Collect 2815	tion Info/Ad S Franklin S		Muncie, I	ndiana			100			e, (D) TS	P, (U) Ur		sulfate, (9) d, (0) Othe	
Customer Project Name/Number: M20032 Muncie Phase II			The second secon	County/City Muncie	h	e Zone Colle		X JET					Ar	nalyses			1
Phone: 317-630-9060	Site/Facility ID	#:			Complianc	e Monitori	ng?				- 1			1			
Email: Ljohnstone@mundellassoc	iates.com				[ ] Yes	[ ] No				m							
Collected By (print): Luke Johnstone /Andy Miller	Purchase Orde Quote #:	er#:			DW PWS II				_	6010	1						
Collegred By (signature):	Turnaround D	ate Require	ed:		Immediate [x] Yes	ely Packed (	on Ice:		Glass (G)	+ Lithium via EPA 6010B							
Sample Disposal:	Rush: (Exped	ite Charges	Apply)		Field Filter	ed (if appli	cable):			É					1		
[ x ] Dispose as appropriate	[ ] Same [	Day [ ] No	ext Day		[ ] Yes	[]No			0	th.							
[ ] Return	[ ] 2 Day	[ ] 3 Day							9	5					1 1		
[ ] Archive:	[ ] 4 Day	[ ]5 Day			Analysis: _			_	asti								
* Matrix Codes (Insert in Matrix be Product (P), Soil/Solid (SL), Oil (C									ype: Pl	A 8 Metals							
Customer Sample ID	Matrix *	Comp / Grab	Collec	ted (or site Start)	1	site End	Res	# of Ctns	Container Type: Plastic (P) or	Total RCRA							
		1	Date	Time	Date	Time			Con	Tot							
E64S	SL	Grab	1/7	11:10				1	G	X			NO.			100	
E65S	SL	Grab	1/7	11:15				1	G	×							
E66S	SL	Grab	1/7	11:20				1	G	X							
DUP4	SL	Grab						1	G	X				1		= 1	
1 By II and		1							-				-	-		-	+
			-			-	-	-	-		-		+				+
				-	-		-					+	-	-	-		+
														1			1

Wet

Radchem sample(s) screened (<500 cpm): Y N NA

Blue

1220 Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Dry

None

Type of Ice Used:

Date/Time:

Date/Time:

Date/Time:

Packing Material Used:

I AR LISE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

WO#:50306779

1	50	306779		r LAB USE ONLY ject Manager:
(6	5) met		s) sodium thiosulfate, (9) hexane	c acid, (4) sodium hydroxide, (5) zinc acetate, , (A) ascorbic acid, (B) ammonium sulfate,
_		Analys		Lab Profile/Line:
0	Total RCRA 8 Metals + Lithium via EPA 60108	Allay	)ES	Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA Custody Signatures Present Y N NA Custody Signatures Present Y N NA Correct Signature Present Y N NA Somples Received on Ice Y N NA Samples Received on Ice Y N NA Samples Received on Ice Y N NA Samples in Holding Time Y N NA Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA pH Strips: Sulfide Present Y N NA Lead Acetate Strips: LAB USE ONLY: Lab Sample # / Comments:  SELL SLUK Ool
+	X			007
+	X			093
_		SHORT HOLDS PRESENT	(<72 hours): Y N N/A	LAB Sample Temperature Info:
		Lab Tracking #:		Temp Blank Received:   N Ni Therm ID#:
	Ī	Samples received via: FEDEX UPS Clie	ent Courier Pace Courier	Cooler 1 Temp Upon Receipt: 0.6  Cooler 1 Therm Corr. Factor 0.6  Cooler 1 Corrected Temp: 0.6 3  Comments:
c		Date/Time: 122	MTJL LAB USE ON Table #:	LY
		Date/Time: 1-11-22 13:10	Acctnum: Template: Prelogin:	Trip Blank Received: Y N NA HCL MeOH TSP Other
		Date/Time:	PM: PB:	Non Conformance(s):   Page: YES / NO Page: 15 of 17

# Pace Analytical"

# SAMPLE CONDITION UPON RECEIPT FORM

<ol> <li>Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG</li> <li>Custody Seal on Cooler/Box Present: ☐ Yes</li> </ol>	1	SPS 🗌	5. Packing Material:   Bubble Wrap  None	☑ Bubb		
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 1 2 3 4 5 6 A B C D E F  4. Cooler Temperature: (Initial/Corrected)	if no seals w	vere prese	6. Ice Type: Wet Blue Nor 7. If temp. is over 6°C or under 0°C, was the Pl		:□ Yes	□ No
and the second of the second o	discrepanci	es will be	written out in the comments section below.			
	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the containe count form	r		/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	/	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	V		Headspace Wisconsin Sulfide?			1
Containers Intact?	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA VIAS Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	/		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)	1 20		Trip Blank Custody Seals?			
COMMENTS:						

# Sample Container Count

		SBS DI MeOH (only) BK Kit																										dat on co	
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Desn	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	8648	BP3Z	ССЗН	Syringe		H2SO4	NaOH/ ZNAc pH >9	NaOH
1	1							-1					1													SL			
2																										$\Pi$			
3													71																
4																										17			
5																													
6				0.4																									
7																													
8																													
9																													
40			1															1											

Container Codes

11

	Gla	SS				Plas	tic / Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
OG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
OG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
OG9T	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	Syring	e Kit LL Cr+6 sampling kit
VG9H	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	AF	Air Filter
/G9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air Cassettes
- 1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit
NGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na Thiosulfate
NGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Summa Can
IGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziploc Bag
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		
3G1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
	1L H2SO4 clear glass	AG3U	250mL unpres amber glass		250mL H2SO4 plastic	SL	Solid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	OL Non-aqueous líquid Oil
						WP	Wipe





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







# **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
50306793001	E67S	Solid	01/07/22 11:45	01/11/22 13:10	
50306793002	E69S	Solid	01/07/22 11:35	01/11/22 13:10	
50306793003	E70S	Solid	01/07/22 11:40	01/11/22 13:10	



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306793001	E67S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306793002	E69S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306793003	E70S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306793001	E67S					
EPA 6010	Arsenic	29.7	mg/kg	1.2	01/14/22 03:42	
EPA 6010	Barium	157	mg/kg	1.2	01/14/22 03:42	
EPA 6010	Cadmium	1.5	mg/kg	0.62	01/14/22 03:42	
EPA 6010	Chromium	18.2	mg/kg	1.2	01/14/22 03:42	
EPA 6010	Lead	376	mg/kg	1.2	01/14/22 03:42	
EPA 6010	Lithium	10	mg/kg	6.2	01/14/22 03:42	N2
SM 2540G	Percent Moisture	27.8	%	0.10	01/13/22 09:47	N2
60306793002	E69S					
EPA 6010	Arsenic	23.3	mg/kg	1.2	01/14/22 03:44	
EPA 6010	Barium	171	mg/kg	1.2	01/14/22 03:44	
EPA 6010	Cadmium	1.1	mg/kg	0.62	01/14/22 03:44	
EPA 6010	Chromium	16.9	mg/kg	1.2	01/14/22 03:44	
EPA 6010	Lead	135	mg/kg	1.2	01/14/22 03:44	
EPA 6010	Lithium	8.4	mg/kg	6.2	01/14/22 03:44	N2
EPA 7471	Mercury	0.32	mg/kg	0.29	01/18/22 08:49	
SM 2540G	Percent Moisture	31.1	%	0.10	01/13/22 09:48	N2
50306793003	E70S					
EPA 6010	Arsenic	40.9	mg/kg	1.2	01/14/22 03:46	
EPA 6010	Barium	205	mg/kg	1.2	01/14/22 03:46	
EPA 6010	Cadmium	1.5	mg/kg	0.58	01/14/22 03:46	
EPA 6010	Chromium	17.7	mg/kg	1.2	01/14/22 03:46	
EPA 6010	Lead	163	mg/kg	1.2	01/14/22 03:46	
EPA 6010	Lithium	7.0	mg/kg	5.8	01/14/22 03:46	N2
SM 2540G	Percent Moisture	26.0	%	0.10	01/13/22 09:48	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Date: 01/18/2022 02:19 PM

Sample: E67S	Lab ID: 503	06793001	Collected: 01/07/2	2 11:45	Received: 01	/11/22 13:10 M	latrix: Solid	
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	29.7	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:42	7440-38-2	
Barium	157	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:42	7440-39-3	
Cadmium	1.5	mg/kg	0.62	1	01/12/22 14:28	01/14/22 03:42	7440-43-9	
Chromium	18.2	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:42	7440-47-3	
Lead	376	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:42	7439-92-1	
Lithium	10	mg/kg	6.2	1	01/12/22 14:28	01/14/22 03:42	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:42	7782-49-2	
Silver	ND	mg/kg	0.62	1	01/12/22 14:28	01/14/22 03:42	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.29	1	01/17/22 12:28	01/18/22 08:42	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	27.8	%	0.10	1		01/13/22 09:47		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Date: 01/18/2022 02:19 PM

Sample: E69S	Lab ID: 503	06793002	Collected: 01/07/2	22 11:35	Received: 01	/11/22 13:10 N	Aatrix: Solid	
Results reported on a "dry wei	ght" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	23.3	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:44	7440-38-2	
Barium	171	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:44	7440-39-3	
Cadmium	1.1	mg/kg	0.62	1	01/12/22 14:28	01/14/22 03:44	7440-43-9	
Chromium	16.9	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:44	7440-47-3	
Lead	135	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:44	7439-92-1	
Lithium	8.4	mg/kg	6.2	1	01/12/22 14:28	01/14/22 03:44	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:44	7782-49-2	
Silver	ND	mg/kg	0.62	1	01/12/22 14:28	01/14/22 03:44	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
•	Pace Analytica	l Services -	Indianapolis					
Mercury	0.32	mg/kg	0.29	1	01/17/22 12:28	01/18/22 08:49	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	31.1	%	0.10	1		01/13/22 09:48		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Date: 01/18/2022 02:19 PM

Sample: E70S	Lab ID: 503	06793003	Collected: 01/07/2	2 11:40	Received: 01	/11/22 13:10 M	//atrix: Solid	
Results reported on a "dry weight"	basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	40.9	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:46	7440-38-2	
Barium	205	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:46	7440-39-3	
Cadmium	1.5	mg/kg	0.58	1	01/12/22 14:28	01/14/22 03:46	7440-43-9	
Chromium	17.7	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:46	7440-47-3	
Lead	163	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:46	7439-92-1	
Lithium	7.0	mg/kg	5.8	1	01/12/22 14:28	01/14/22 03:46	7439-93-2	N2
Selenium	ND	mg/kg	1.2	1	01/12/22 14:28	01/14/22 03:46	7782-49-2	
Silver	ND	mg/kg	0.58	1	01/12/22 14:28	01/14/22 03:46	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.27	1	01/17/22 12:28	01/18/22 08:59	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	26.0	%	0.10	1		01/13/22 09:48		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306793

QC Batch: QC Batch Method: 658622

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306793001, 50306793002, 50306793003

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306793001, 50306793002, 50306793003

Blank Result Reporting

Limit

Analyzed

48

Qualifiers

Mercury

Units mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE:

Parameter

3034665

Spike Conc.

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Units mg/kg

0.48

Result

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

MSD Spike

MS MSD MS

MSD

% Rec

Max

50306793001 Parameter Units Result

Conc.

Result

3034667

0.23

Result

% Rec

% Rec

**RPD** 

RPD

Qual

Mercury

MS Spike Conc.

0.94

107

Limits

Date: 01/18/2022 02:19 PM

ND mg/kg 0.72 0.69 0.92

105

75-125

20 2

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306793

LABORATORY CONTROL SAMPLE:

Silver

Date: 01/18/2022 02:19 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306793001, 50306793002, 50306793003

METHOD BLANK: 3033074 Matrix: Solid

3033075

mg/kg

Associated Lab Samples: 50306793001, 50306793002, 50306793003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	12
Selenium	mg/kg	47.3	48.2	102	80-120	

23.7

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077							
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	MO
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	20	

23.0

97

80-120

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306793

QC Batch: 658420 Analysis Method: SM 2540G

QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306793001, 50306793002, 50306793003

SAMPLE DUPLICATE: 3033111

Parameter	Units	50306805001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.5	19.9	3		5 N2

SAMPLE DUPLICATE: 3033112

		50306805002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	21.2	24.5	14		5 N2,R1

SAMPLE DUPLICATE: 3033767

Date: 01/18/2022 02:19 PM

SAMPLE DUPLICATE. 3033707		50306793001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	27.8	26.7	4		5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

#### **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**

Date: 01/18/2022 02:19 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306793

Date: 01/18/2022 02:19 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306793001	E67S	EPA 3050	658262	EPA 6010	658576
50306793002	E69S	EPA 3050	658262	EPA 6010	658576
50306793003	E70S	EPA 3050	658262	EPA 6010	658576
50306793001	E67S	EPA 7471	658622	EPA 7471	658891
50306793002	E69S	EPA 7471	658622	EPA 7471	658891
50306793003	E70S	EPA 7471	658622	EPA 7471	658891
50306793001	E67S	SM 2540G	658420		
50306793002	E69S	SM 2540G	658420		
50306793003	E70S	SM 2540G	658420		

Pace Analytical*		sample via this Conditions	chain of custod found at: https	ly constitutes a s://info.pacelal	ytical Red acknowledgmen bs.com/hubfs/p MENT - Comple	t and acceptan	ce of the F		s and		LAB USE ONLY-		/Login Labe TJL Log-in N		List Pace Workorder Number or ere
Company: Mundell and Associate	s, Inc.		Billing Info	rmation:							ALL BO	LD OUTLIN	ED ARE	AS are	for LAB USE ONLY
Address: 110 S Downey Ave, India	napolis, IN 4621	19	110 S	Downey A	ve, Indianap	olis, IN 462	19								
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.co	om			U ** Pre	servative Types: (1) nitric	WO#	:50	30	hvdroxide, (5) zinc acetate,
Сору То:				tion Info/A		Muncie, I	ndiana				ethanol, (7) sodium bisulf; nmonium hydroxide, (D)	11111111		300	Project Manager:  5793  Wifate,  St.:  Ct. Y. N. NA.  Y. N. NA.
Customer Project Name/Number: M20032 Muncie Phase II			A 24 May 1	County/Cit Muncie	•	e Zone Coll		X]ET				50306793			st: ct Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellassoci	Site/Facility II	D#:			1 2 2 3 4 6 5 5 5 5	e Monitori	ng?						In	- 50	it Y N NA
Collected By (print): Luke Johnstone /Andy Miller	Purchase Ord Quote #:	ler#:			DW PWS I				] _	60108				Cor	rect Bottles Y N NA fricient Volume Y N NA
Collected By (signature):	Turnaround D				[x] Yes				Glass (G)	via EPA				VOA	mples Received on Ice Y N NA A - Headspace Acceptable Y N NA DA Regulated Soils Y N NA
Sample Disposal: [ x ] Dispose as appropriate [ ] Return [ ] Archive:	Rush: (Exped [ ] Same [ ] 2 Day [ ] 4 Day	Day [ ] N [ ] 3 Day	ext Day		1000	red (if appli	cable):		Type: Plastic (P) or G	Metals + Lithium				Sam Res Cl Sam pH	mples in Holding Time Y N NA sidual Chlorine Present Y N NA Strips: mple pH Acceptable Y N NA Strips:
* Matrix Codes (Insert in Matrix be Product (P), Soil/Solid (SL), Oil (O		-					),		Type: Pl	00				Lea	Ifide Present Y N NA ad Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab		cted (or site Start)	Compo	osite End	Res	# of Ctns	Container	Total RCRA					3 USE ONLY: 5 Sample # / Comments:
E67S	SL	Grab	1/7	11:45			1	1	G	X				-	OOI SCUR
E69S	SL	Grab	1/7	11:35				1	G	×					052
E70S	SL	Grab	1/7	11:40				1	G	X					003
					-		-		-						
Description of the state of the	litions / Bossible	Hannede													I AD Cample Tomporature Info
Customer Remarks / Special Cond Total RCRA 8 Metals + Lithium		: Mazaros:	Type of Ice Packing M		Wet	Blue	Dry	None			SHORT HOLDS PRESE Lab Tracking #:	N1 ( 2 hours) :</td <td>YN</td> <td>N/A</td> <td>LAB Sample Temperature Info: Temp Blank Recaived: N NI Therm ID#: Cooler 1 Temp Upon Receipt: 0</td>	YN	N/A	LAB Sample Temperature Info: Temp Blank Recaived: N NI Therm ID#: Cooler 1 Temp Upon Receipt: 0
			100000000000000000000000000000000000000		screened (<	600 cpm):	γ 1	N NA			Samples received via FEDEX UPS	: Client Courier	Pace Cou	rier	Cooler 1 Therm Corr. Factor of Cooler 1 Corrected Temp: 0.6 of Comments:
Relinquished by/Company: (Signal	iture)	Date 1)	e/Time: 1	220	Received b	y/Company	: (Signa	iture)	Par		Date/Time: /	Z2O M Table	TJL LAB USE #:	ONLY	
Relinquished by/Company: (Signa	ture)		e/Time:	1310	Received b	y/Company	y: (Signa	iture)			Date/Time:	3:1() Acctn. Temp	late:		Trip Blank Received: Y N NA HCL MeOH TSP Other

Received by/Company: (Signature)

Relinquished by/Company: (Signature)

Date/Time:

Date/Time:

PM: PB: Non Conformance(s): Page:

Page 14 of 16

YES / NO

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

### SAMPLE CONDITION UPON RECEIPT FORM

. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PA	CE □ U	SPS	5. Packing Material: Bubble Wrap	☑ Bubbl		
f yes)Seals Intact:  Yes  No (leave blank  Thermometer: 123456 ABCDEF  Cooler Temperature:  O.6/O.6  Temp should be above freezing to 6°C (Initial/Corrected)		vere prese	6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM		□ Yes	□ No
All	discrepanci	ies will be	written out in the comments section below.			
	Yes	No		Yes	No	N/A
SDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, NK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			,
hort Hold Time Analysis (48 hours or less)? nalysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			/
ime 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
ush TAT Requested (4 days or less):	1	<b>/</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
ustody Signatures Present?	<b>V</b>		Headspace Wisconsin Sulfide?			1
ontainers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sen
ample Label (IDs/Dates/Times) Match COC?: coept TCs, which only require sample ID	1		Trip Blank Present?		J	
ktra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
DMMENTS:						

\*\* Place a RED dot on containers

		Kit																									that a	re out of	conform	nance **
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Desn	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	ВРЗО	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1												11/1					i ii		- 1					13		SL		A	
2				-																							1			
3																											1			
4																														
5	1-0			1																										
6	-																									1 1				-
7																														
8																														
9																														
10				1														0												
11																														
12														-																

Container Codes

	Gla	SS				Plas	tic / Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syring	e Kit LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	С	Air Cassettes
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terracore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120mL Coliform Na Thiosulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Summa Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass		250mL HNO3 plastic	ZPLC	Ziploc Bag
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT	Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass		250mL H2SO4 plastic	SL	Solid
GN	General			BP3Z	250mL NaOH, ZnAc plastic	NAL	OL Non-aqueous liquid Oil
						WP	Wine

ius	dio / imiso.	
BP4U	125mL unpreserved plastic	
BP4N	125mL HNO3 plastic	
BP4S	125mL H2SO4 plastic	

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306805001	E72S	Solid	01/07/22 12:00	01/11/22 13:10
50306805002	E73S	Solid	01/07/22 12:05	01/11/22 13:10



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306805001	E72S	EPA 6010	JPK	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306805002	E73S	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306805001	E72S					
EPA 6010	Arsenic	7.6	mg/kg	1.1	01/14/22 04:06	
EPA 6010	Barium	111	mg/kg	1.1	01/14/22 04:06	
EPA 6010	Cadmium	1.3	mg/kg	0.56	01/14/22 04:06	
EPA 6010	Chromium	19.2	mg/kg	1.1	01/14/22 04:06	
EPA 6010	Lead	141	mg/kg	1.1	01/14/22 04:06	
EPA 6010	Lithium	10	mg/kg	5.6	01/14/22 04:06	N2
SM 2540G	Percent Moisture	20.5	%	0.10	01/13/22 09:50	N2
60306805002	E73S					
EPA 6010	Arsenic	15.7	mg/kg	1.1	01/13/22 13:35	
EPA 6010	Barium	104	mg/kg	1.1	01/13/22 13:35	
EPA 6010	Cadmium	0.84	mg/kg	0.54	01/13/22 13:35	
EPA 6010	Chromium	18.4	mg/kg	1.1	01/13/22 13:35	
EPA 6010	Lead	290	mg/kg	1.1	01/13/22 13:35	
EPA 6010	Lithium	8.1	mg/kg	5.4	01/13/22 13:35	N2
SM 2540G	Percent Moisture	21.2	%	0.10	01/13/22 09:50	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Date: 01/18/2022 02:20 PM

Sample: E72S	Lab ID: 503	06805001	Collected: 01/07/2	2 12:00	Received: 01	/11/22 13:10 N	/latrix: Solid	
Results reported on a "dry wei	ght" basis and are adj	usted for p	ercent moisture, sa	mple si	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	od: EP/	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	7.6	mg/kg	1.1	1	01/12/22 14:28	01/14/22 04:06	7440-38-2	
Barium	111	mg/kg	1.1	1	01/12/22 14:28	01/14/22 04:06	7440-39-3	
Cadmium	1.3	mg/kg	0.56	1	01/12/22 14:28	01/14/22 04:06	7440-43-9	
Chromium	19.2	mg/kg	1.1	1	01/12/22 14:28	01/14/22 04:06	7440-47-3	
Lead	141	mg/kg	1.1	1	01/12/22 14:28	01/14/22 04:06	7439-92-1	
Lithium	10	mg/kg	5.6	1	01/12/22 14:28	01/14/22 04:06	7439-93-2	N2
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 04:06	7782-49-2	
Silver	ND	mg/kg	0.56	1	01/12/22 14:28	01/14/22 04:06	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/17/22 12:28	01/18/22 09:16	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	20.5	%	0.10	1		01/13/22 09:50		N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Date: 01/18/2022 02:20 PM

Sample: E73S	Lab ID: 503	06805002	Collected: 01/07/2	2 12:05	Received: 01	/11/22 13:10 N	fatrix: Solid	
Results reported on a "dry we	ight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	15.7	mg/kg	1.1	1	01/12/22 14:28	01/13/22 13:35	7440-38-2	
Barium	104	mg/kg	1.1	1	01/12/22 14:28	01/13/22 13:35	7440-39-3	
Cadmium	0.84	mg/kg	0.54	1	01/12/22 14:28	01/13/22 13:35	7440-43-9	
Chromium	18.4	mg/kg	1.1	1	01/12/22 14:28	01/13/22 13:35	7440-47-3	
Lead	290	mg/kg	1.1	1	01/12/22 14:28	01/13/22 13:35	7439-92-1	
Lithium	8.1	mg/kg	5.4	1	01/12/22 14:28	01/13/22 13:35	7439-93-2	N2
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/13/22 13:35	7782-49-2	
Silver	ND	mg/kg	0.54	1	01/12/22 14:28	01/13/22 13:35	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.24	1	01/17/22 12:28	01/18/22 09:18	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	21.2	%	0.10	1		01/13/22 09:50		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306805

QC Batch:

658622

QC Batch Method: EPA 7471

Analysis Method:

Analysis Description:

EPA 7471

Laboratory:

7471 Mercury Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306805001, 50306805002

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306805001, 50306805002

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

Mercury

Units mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3034665

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Date: 01/18/2022 02:20 PM

Units mg/kg

0.48

0.23

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

MSD

50306793001 Result

ND

Spike Spike MS

3034667

48

MSD

% Rec Limits

Max **RPD** RPD

Qual

Units

mg/kg

MS

Conc. Conc. 0.72 0.69

Result 0.94

Result 0.92

MSD

% Rec 105

MS

% Rec 107

75-125

20 2

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Date: 01/18/2022 02:20 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306805001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306805001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPI	LE: 3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 I	<b>N</b> 2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	076		3033077							
	5	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Date: 01/18/2022 02:20 PM

QC Batch: 658263 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306805002

METHOD BLANK: 3033078 Matrix: Solid

Associated Lab Samples: 50306805002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.94	01/13/22 13:24	
Barium	mg/kg	ND	0.94	01/13/22 13:24	
Cadmium	mg/kg	ND	0.47	01/13/22 13:24	
Chromium	mg/kg	ND	0.94	01/13/22 13:24	
Lead	mg/kg	ND	0.94	01/13/22 13:24	
Lithium	mg/kg	ND	4.7	01/13/22 13:24	N2
Selenium	mg/kg	ND	0.94	01/13/22 13:24	
Silver	mg/kg	ND	0.47	01/13/22 13:24	

LABORATORY CONTROL SAMPLE:	3033079					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	49.5	51.3	104	80-120	
Barium	mg/kg	49.5	52.1	105	80-120	
Cadmium	mg/kg	49.5	49.2	99	80-120	
Chromium	mg/kg	49.5	53.9	109	80-120	
Lead	mg/kg	49.5	48.4	98	80-120	
Lithium	mg/kg	49.5	51.5	104	80-120 N	2
Selenium	mg/kg	49.5	49.6	100	80-120	
Silver	mg/kg	24.8	24.2	98	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3033	080		3033081							
	-	0000774000	MS	MSD	MC	MCD	MC	MCD	0/ D		Mari	
Parameter	Units	0306774002 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	4.4	42.2	44.2	43.8	44.5	93	91	75-125	2	20	
Barium	mg/kg	50.4	42.2	44.2	102	98.1	123	108	75-125	4	20	
Cadmium	mg/kg	0.17J	42.2	44.2	37.5	39.0	88	88	75-125	4	20	
Chromium	mg/kg	12.3	42.2	44.2	50.5	52.4	91	91	75-125	4	20	
Lead	mg/kg	7.4	42.2	44.2	38.4	40.7	73	75	75-125	6	20	MO
Lithium	mg/kg	14.1	42.2	44.2	53.8	54.1	94	90	75-125	0	20	N2
Selenium	mg/kg	0.84 U	42.2	44.2	37.1	38.1	88	86	75-125	3	20	
Silver	mg/kg	0.42 U	21.1	22.1	18.7	19.3	88	87	75-125	3	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306805

QC Batch:

658420

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306805001, 50306805002

SAMPLE DUPLICATE: 3033111

Parameter

50306805001 Parameter Units Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Percent Moisture

%

Units

%

20.5

19.9 3 5 N2

SAMPLE DUPLICATE: 3033112

50306805002 Result

21.2

27.8

Dup Result 24.5

**RPD** 14

Max **RPD** 

Qualifiers

5 N2,R1

5 N2

SAMPLE DUPLICATE: 3033767

Date: 01/18/2022 02:20 PM

Parameter Units Percent Moisture %

50306793001 Result

Dup Result

26.7

RPD

4

Max RPD

Qualifiers

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

#### **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.

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

Date: 01/18/2022 02:20 PM

- 15 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- M<sub>0</sub> Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A N2

complete list of accreditations/certifications is available upon request.

RPD value was outside control limits. R1



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306805

Date: 01/18/2022 02:20 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306805001	E72S	EPA 3050	658262	EPA 6010	658576
50306805002	E73S	EPA 3050	658263	EPA 6010	658467
50306805001	E72S	EPA 7471	658622	EPA 7471	658891
50306805002	E73S	EPA 7471	658622	EPA 7471	658891
50306805001	E72S	SM 2540G	658420		
50306805002	E73S	SM 2540G	658420		

Customer Remarks / Special Condi	itions / Possible	Hazards:	Type of Ice	Used:	Wet	Blue	Dry	None			SHOR	T HOLD	OS PRE	SENT (	<72 h	ours) :	Y	N	N/A	LAB Sample Temperature Info	0;
E73S	SL	Grab	1/7	12:05				1	G	×	H				-				1	002	
E72S	SL	Grab	1/7	12:00				1	G	X									_	001	
Customer Sample ID	Matrix *	Grab	100000000000000000000000000000000000000		Compo	Time	Res	Ctns	Container	Total										Lab Sample # / Comments:  See Scur	
		ir (AR), Tiss	ue (TS), Bio	assay (B), V		A COLUMN TO THE STATE OF		# of	Туре:	RCRA 8 M					1				ı	Lead Acetate Strips:	1 10 000
Sample Disposal: [ x ] Dispose as appropriate [ ] Return [ ] Archive:	[ ] Same [ ] 2 Day [ ] 4 Day	Day [ ] No [ ] 3 Day [ ] 5 Day	ext Day		[ ] Yes Analysis:	red (if appli			Plastic (P) or	Metals + Lithium v										USDA Regulated Soils Samples in Holding Time Residual Chlorine Present Cl Strips: Sample pH Acceptable pH Strips: Sulfide Present	AN N Y N NA Y N
Collected By (signature):	Turnaround D	ate Require	ed:		Immediat	ely Packed	on Ice:		Glass (G)	via EPA	П		1	В	1		1	18		Samples Received on Ice VOA - Headspace Acceptable	Y N NA Y N NA
Collected By (print): Luke Johnstone /Andy Miller	Submitting a sample via this chain of custodic Conditions found at: https://dx.conditions.found.at: https://dx.conditions.foun				DW PWS I					EPA 60108			ш		-1					Correct Bottles Sufficient Volume	Y N NA Y N NA Y N NA
Email: Ljohnstone@mundellassocia	Email To: Ljo  Site Collectio 2707 S er: State: Coi IN / Mu  Sociales.com  Purchase Order #: Quote #: Turnaround Date Required:  Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day  x box below): Drinking Water (DW), Ground M I (OL), Wipe (WP), Air (AR), Tissue (TS), Bioass  Matrix * Grab  SL Grab 1/7					[]No	iig!			-						1				Custody Signatures Present Collector Signature Present Bottles Intact	t Y N NA
Customer Project Name/Number: M20032 Muncie Phase II Phone: 317-630-9060	Sita/Eacility ID			County/Cit Muncie	[ ]P	e Zone Coll T [ ]MT [ ce Monitori	JCT [	X]ET										15		Lab Sample Receipt Checkli Custody Seals Present/Inta-	ct Y N NA
Сору То:	Site Collection 2707 S Li Number: Set II  Site/Facility ID #: dellassociates.com  Purchase Order #: Quote #: Turnaround Date Required:  Rush: (Expedite Charges Apply) [ ] Same Day [ ] Next Day				t.	Muncie, I				1000	thanol, ( monium		de, (D)		_		,,,,,,	mer_	F	Lab Profile/Line:	
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	issociates.c	om	00-0			servativ		4	ic ac	503	1   1   1   1   1   1   1   1   1   1	05	111	181	11.111	-
Address: 110 S Downey Ave, India		9	110 S	Downey A	e, Indianap	oolis, IN 462	19					-	ainer F								
Company: Mundell and Associates	, Inc.	Chain-of-C	1		ENT - Compl	ete all releva	nt fields					^	LL B	0	M	<b>)</b> #	: !	5(	)3(	06805	
Pace Analytical*		ample via this Conditions	chain of custod found at: https	y constitutes a ://info.pacelab	cknowledgmen s.com/hubfs/p	nt and acceptar as-standard-te	rms.pdf		and			LAB US	E ONL			M	TJL LO	g-in N	lumbe	e or List Pace Workorder Number er Here	or

Radchem sample(s) screened (<500 cpm): Y N NA

Received by/Company: (Signature)

Date/Time: Received by/Company (Signature)

Date/Time: Received by/Company: (Signature)

1/11/22 1310

Date/Time:

Relinodished by (Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Pace

Samples received via:

Date/Time:

Date/Time:

1-11-22

PM:

PB:

Date/Time:

ture Info: red: O N NA Cooler 1 Temp Upon Receipt: 06C Cooler 1 Therm Corr. Factor 0 oc Cooler 1 Corrected Temp: 0.6 oc FEDEX UPS Client Courier Pace Courier Comments: MTJL LAB USE ONLY Table #: Acctnum: Trip Blank Received: Y N NA Template: HCL MeOH TSP Other Prelogin: Non Conformance(s): Page: YES / NO of: Page 14 of 16

# Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents:  1. Courier: □ FED EX □ UPS □ CLIENT ▼ PAC  2. Custody Seal on Cooler/Box Present: □ Yes  (If yes)Seals Intact: □ Yes □ No (leave blank)	E U U		5. Packing Material: Bubble Wr	ap ☑ Bubb	le Bags	
3. Thermometer: 123456 ABCDEF  4. Cooler Temperature: 0.6/0.6  Temp should be above freezing to 6°C (Initial/Corrected)	-	vere press	6. Ice Type: Wet Blue D 7. If temp. is over 6°C or under 0°C, was t		:□ Yes	□ No
All		ies will be	written out in the comments section below.			
	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.			
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 corcount form	ntainer		/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	1	V	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	1		Headspace Wisconsin Sulfide?			1
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	$\sqrt{}$		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			
COMMENTS:						

COC	PAGE	of	Ò.
		_	_

## Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance \*\*

COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (≻6mm)	VG9U	Deson	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзо	BP3N	врзг	BP3S	вьзв	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1		100																							SL			
2	1																									1			
3																													
4			-	/1-																									
5			U=E																										
6									1 -																				
7																													
8																-													
9																							- 1						
10																							- 1						
11																													
12																													

#### Container Codes

	Gla				
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 HCI 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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc. BP4U 125mL unpreserved plastic BP4N 125mL HNO3 plastic BP4s 125mL H2SO4 plastic

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Lab ID	Sample ID	Matrix	Date Collected	Date Received		
50306781001	E77S	Solid	01/07/22 10:30	01/11/22 13:10		



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
50306781001	E77S	EPA 6010	JPK	8	PASI-I	
		EPA 7471	ILP	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
50306781001	E77S						
EPA 6010	Arsenic	8.1	mg/kg	1.1	01/14/22 03:20		
EPA 6010	Barium	66.2	mg/kg	1.1	01/14/22 03:20		
EPA 6010	Chromium	11.7	mg/kg	1.1	01/14/22 03:20		
EPA 6010	Lead	31.5	mg/kg	1.1	01/14/22 03:20		
EPA 6010	Lithium	9.0	mg/kg	5.7	01/14/22 03:20	N2	
SM 2540G	Percent Moisture	16.4	%	0.10	01/13/22 09:04	N2	



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Date: 01/18/2022 02:16 PM

Sample: E77S	Lab ID: 503	06781001	Collected: 01/07/2	22 10:30	Received: 01	/11/22 13:10 N	latrix: Solid						
Results reported on a "dry weight	" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual					
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050												
	Pace Analytica	l Services -	Indianapolis										
Arsenic	8.1	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:20	7440-38-2						
Barium	66.2	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:20	7440-39-3						
Cadmium	ND	mg/kg	0.57	1	01/12/22 14:28	01/14/22 03:20	7440-43-9						
Chromium	11.7	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:20	7440-47-3						
Lead	31.5	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:20	7439-92-1						
Lithium	9.0	mg/kg	5.7	1	01/12/22 14:28	01/14/22 03:20	7439-93-2	N2					
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:20	7782-49-2						
Silver	ND	mg/kg	0.57	1	01/12/22 14:28	01/14/22 03:20	7440-22-4						
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471								
	Pace Analytica	l Services -	Indianapolis										
Mercury	ND	mg/kg	0.24	1	01/17/22 12:26	01/18/22 07:58	7439-97-6						
Percent Moisture	Analytical Meth	nod: SM 254	10G										
	Pace Analytica	l Services -	Indianapolis										
Percent Moisture	16.4	%	0.10	1		01/13/22 09:04		N2					



Project:

M20032 Muncie Phase II

Pace Project No.:

50306781

QC Batch:

658620

QC Batch Method:

Analysis Method: Analysis Description: EPA 7471

EPA 7471

Blank

Result

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306781001

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306781001

Reporting

Limit Analyzed

Qualifiers

Mercury

Mercury

Mercury

Date: 01/18/2022 02:16 PM

Units mg/kg

ND

0.20 01/18/22 07:26

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3034656

Spike Conc.

LCS Result

LCS % Rec

112

% Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

mg/kg

3034657

ND

Units

0.48

3034658

MS

Result

0.71

0.54

50306781001 Parameter Units Result

mg/kg

MS Spike Conc.

0.62

MSD Spike Conc.

0.59

MSD Result

0.70

MS % Rec

110

MSD % Rec

116

% Rec Max Limits **RPD** RPD

Qual 20 75-125

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Date: 01/18/2022 02:16 PM

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306781001

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306781001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

LABORATORY CONTROL SAMPLE:	3033075					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120	N2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3033	076		3033077							
	E	0306781001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306781

QC Batch:

658416

QC Batch Method:

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306781001

Parameter

SAMPLE DUPLICATE: 3033756

50306781001 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

Units %

16.4

16.6

5 N2

SAMPLE DUPLICATE: 3033791

50306879005 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Date: 01/18/2022 02:16 PM

Parameter Percent Moisture

Units %

5.0

4.8

3

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

#### **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**

Date: 01/18/2022 02:16 PM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306781

Date: 01/18/2022 02:16 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306781001	E77S	EPA 3050	658262	EPA 6010	658576
50306781001	E77S	EPA 7471	658620	EPA 7471	658890
50306781001	E77S	SM 2540G	658416		

# Pace Analytical

Company: Mundell and Associates, Inc.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Billing Information:

Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

110 5 Downey Ave, Indianapolis, IN 46219

### **CHAIN-OF-CUSTODY Analytical Request Document**

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

MTJL Log-in Number Here

# ALL BOLD OUT WO#: 50306781

Address: 110 S Downey Ave, India	anapolis, IN 4621	.9	1105	Downey A	ve, Indianap	olis, IN 462	19		Container Preservative T					eservative				
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.co	om							acid, (2) sul		0306781		
Сору То:				tion Info/A S Madison		Muncie, I	ndiana			(6) methanol, (7) sodium bisulfate, (8) sodium (C) ammonium hydroxide, (D) TSP, (U) Unpres.						3/01		
Customer Project Name/Number: M20032 Muncie Phase II			State:	County/Cit Muncie	y: Tim	e Zone Colle	ected:	XIET					Ai	nalyses		1	Lab Profile/Line: Lab Sample Receipt Checklist; Custody Seals Present/Intact Y N NA	
Phone: 317-630-9060	Site/Facility ID	) #:				e Monitori		-		1			1	1 1			Custody Signatures Present Y N NA	
Email: Ljohnstone@mundellassoc	iates.com				[ ] Yes	[ ] No				_				W 1			Collector Signature Present Y N NA Bottles Intact Y N NA	
Collected By (print): Luke Johnstone /Andy Miller				DW PWS ID #: DW Location Code:				60108							Correct Bottles Y N NA Sufficient Volume Y N NA			
Collected By (signature):	Turnaround D	rnaround Date Required:			Immediately Packed on Ice: [x] Yes				Glass (G)	ia EPA							Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA	
Sample Disposal:	Rush: (Exped	ite Charges	Apply)		Field Filter	ed (if appli	cable):		1000	É							USDA Regulated Soils Y N NA Samples in Holding Time Y N NA	
x   Dispose as appropriate     Return     Archive:	[ ] Same I [ ] 2 Day [ ] 4 Day	[ ]3 Day	ext Day		[ ]Yes				Plastic (P) or	Total RCRA 8 Metals + Lithium via EPA							Residual Chlorine Present Y N NA C1 Strips: Sample pH Acceptable Y N NA pH Strips:	
* Matrix Codes (Insert in Matrix b	ox below): Drinki	ing Water (	DW), Groun	d Water (C	GW), Waster	water (WW	),			Met							Sulfide Present Y N NA	
Product (P), Soil/Solid (SL), Oil (C									Type	A 8							Lead Acetate Strips:	
Customer Sample ID	Matrix *	Comp / Grab	1 4 7 7 7 7	ted (or site Start)	Compo	osite End	Res	# of Ctns	Container Type:	tal RCR				1			LAB USE ONLY: Lab Sample # / Comments:	
			Date	Time	Date	Time			Con	101				1 1			See SCUR	
E775 MS/MSD	SL	Grab	1/7	10:30				3	G	X			+			+		
										H			-					
									-				+			-		
												$\rightarrow$	+			_		
Customer Remarks / Special Con	ditions / Possible	Hazards:	Type of Ic	e Used:	Wet	Blue	Dry	None			SHOR	T HOLD	S PRESE	ENT (<72 h	ours): Y	N N/A		
Total RCRA 8 Metals + Lithium	1		Packing N	laterial Use	ed:						Lab T	racking	#:				Temp Blank Received: ① N NA Therm ID#: Cooler 1 Temp Upon Receipt: 0.00	
			Radchem	sample(s)	screened (<	500 cpm):	Y 1	N NA			10000	les rece DEX	ived via		Courier Pace	Courier	Cooler 1 Therm Corr. Factor 6.4 oc Cooler 1 Corrected Temp: 0 6 oc Comments:	
Relinquished by/Combany: (Sign	ature)		/Time:	1220	Received t	y/Company	y: (Signa	ture)	0	a	C	Pate/Tim	ne;	1220	MTJL LAB Table #:	USE ON		
Relinquished by/Company: (Sign	ature) - Pac	Date	e/Time:	1310	Received t	y/Company	y: (Signa	ture)	_		C	Pate/Tin	ne:	3:10	Acctnum: Template: Prelogin:		Trip Blank Received: Y N NA HCL MeOH TSP Other	
Relinquished by/Company: (Sign	ature)	Dat	e/Time:	- 1	Received t	y/Company	y: (Signa	ture)			_	Date/Tin			PM: PB:		Non Conformance(s): Page: Page 12 of 14	

# Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAGE     Custody Seal on Cooler/Box Present: ☐ Yes	No		S. Packing Material: Bubble Wrap	Bubble Bags  Other		
(If yes)Seals Intact:  Yes  No (leave blank  3. Thermometer: 1 2 3 4 5 6 A B C D E F  4. Cooler Temperature:  (Initial/Corrected)		vere prese	6. Ice Type: Wet Blue None 7. If temp. is over 6°C or under 0°C, was the PM	notified?	☐ Yes	□ No
- All			written out in the comments section below.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been  CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A
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:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	<b>V</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	<b>V</b>		Headspace Wisconsin Sulfide?			1
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	NO VOA VIAS SE
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC PAGE_	of
-----------	----

### Sample Container Count

SBS DI MeOH (only)
BK Kit H8 N K GB ON NAMEL H8 N K

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

COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	3																									SL			
2																													
3																													
4																													
5																													
6					-1																								
7			T.																										
8																													
9																													44
10																													
11																													
12																													

Container Codes

	Gla					
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	and the first of the property of the contract	
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 HCI 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	Boz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	ВР3В	250mL NaOH plastic	
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	
CG3H	250mL clear glass HCI	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	

Plas	tic / Misc.	
BP4U	125mL unpreserved plastic	
BP4N	125mL HNO3 plastic	
BP4S	125mL H2SO4 plastic	

Syringe Kit LL Cr+6 sampling kit

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

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





January 18, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306796001	E84S	Solid	01/07/22 14:50	01/11/22 13:10
50306796002	E86S	Solid	01/07/22 14:45	01/11/22 13:10



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
50306796001	E84S	EPA 6010	JPK	8	PASI-I	
		EPA 7471	ILP	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	
50306796002	E86S	EPA 6010	JPK	8	PASI-I	
		EPA 7471	ILP	1	PASI-I	
		SM 2540G	ADT	1	PASI-I	

PASI-I = Pace Analytical Services - Indianapolis



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
50306796001	E84S						
EPA 6010	Arsenic	6.6	mg/kg	1.1	01/14/22 03:49		
EPA 6010	Barium	72.1	mg/kg	1.1	01/14/22 03:49		
EPA 6010	Chromium	13.7	mg/kg	1.1	01/14/22 03:49		
EPA 6010	Lead	41.6	mg/kg	1.1	01/14/22 03:49		
EPA 6010	Lithium	9.4	mg/kg	5.5	01/14/22 03:49	N2	
SM 2540G	Percent Moisture	21.9	%	0.10	01/13/22 09:49	N2	
50306796002	E86S						
EPA 6010	Arsenic	5.3	mg/kg	1.1	01/14/22 03:55		
EPA 6010	Barium	56.2	mg/kg	1.1	01/14/22 03:55		
EPA 6010	Cadmium	1.2	mg/kg	0.56	01/14/22 03:55		
EPA 6010	Chromium	23.3	mg/kg	1.1	01/14/22 03:55		
EPA 6010	Lead	240	mg/kg	1.1	01/14/22 03:55		
EPA 6010	Lithium	8.6	mg/kg	5.6	01/14/22 03:55	N2	
SM 2540G	Percent Moisture	24.2	%	0.10	01/13/22 09:49	N2	



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Date: 01/18/2022 02:19 PM

Sample: E84S	Lab ID: 503	06796001	Collected: 01/07/2	2 14:50	Received: 01	/11/22 13:10 N	//atrix: Solid	
Results reported on a "dry weig	ght" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	6.6	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:49	7440-38-2	
Barium	72.1	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:49	7440-39-3	
Cadmium	ND	mg/kg	0.55	1	01/12/22 14:28	01/14/22 03:49	7440-43-9	
Chromium	13.7	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:49	7440-47-3	
Lead	41.6	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:49	7439-92-1	
Lithium	9.4	mg/kg	5.5	1	01/12/22 14:28	01/14/22 03:49	7439-93-2	N2
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:49	7782-49-2	
Silver	ND	mg/kg	0.55	1	01/12/22 14:28	01/14/22 03:49	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/17/22 12:28	01/18/22 09:01	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	40G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	21.9	%	0.10	1		01/13/22 09:49		N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Date: 01/18/2022 02:19 PM

Sample: E86S Results reported on a "dry weight	Lab ID: 503		Collected: 01/07/2	_			Matrix: Solid	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	od: EP/	\ 3050			
	Pace Analytica		•					
Arsenic	5.3	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:55	7440-38-2	
Barium	56.2	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:55	7440-39-3	
Cadmium	1.2	mg/kg	0.56	1	01/12/22 14:28	01/14/22 03:55	7440-43-9	
Chromium	23.3	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:55	7440-47-3	
Lead	240	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:55	7439-92-1	
Lithium	8.6	mg/kg	5.6	1	01/12/22 14:28	01/14/22 03:55	7439-93-2	N2
Selenium	ND	mg/kg	1.1	1	01/12/22 14:28	01/14/22 03:55	7782-49-2	
Silver	ND	mg/kg	0.56	1	01/12/22 14:28	01/14/22 03:55	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	od: EP/	\ 7471			
·	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.26	1	01/17/22 12:28	01/18/22 09:04	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 254	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	24.2	%	0.10	1		01/13/22 09:49	)	N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306796

QC Batch: QC Batch Method:

METHOD BLANK:

658622

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306796001, 50306796002

Matrix: Solid

Associated Lab Samples:

50306796001, 50306796002

Blank Result

Reporting Limit

Analyzed

Qualifiers

Mercury

Units mg/kg

ND

0.19 01/18/22 08:37

LABORATORY CONTROL SAMPLE:

Parameter

3034665

Spike Conc.

LCS

LCS % Rec

48

% Rec Limits

Qualifiers

Parameter Mercury

Date: 01/18/2022 02:19 PM

Units mg/kg

0.48

Result 0.23

80-120 L5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034666

ND

MSD

50306793001 Parameter Units Result

MS Spike

Spike Conc.

MS Result

MSD Result 0.92

MS % Rec

MSD % Rec % Rec **RPD** Limits

Max RPD

Mercury

mg/kg

Conc. 0.72 0.69

0.94

3034667

105

107

75-125

Qual

20 2

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306796

QC Batch: 658262 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306796001, 50306796002

METHOD BLANK: 3033074 Matrix: Solid

Associated Lab Samples: 50306796001, 50306796002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.93	01/14/22 03:03	
Barium	mg/kg	ND	0.93	01/14/22 03:03	
Cadmium	mg/kg	ND	0.46	01/14/22 03:03	
Chromium	mg/kg	ND	0.93	01/14/22 03:03	
Lead	mg/kg	ND	0.93	01/14/22 03:03	
Lithium	mg/kg	ND	4.6	01/14/22 03:03	N2
Selenium	mg/kg	ND	0.93	01/14/22 03:03	
Silver	mg/kg	ND	0.46	01/14/22 03:03	

	LABORATORY	CONTROL	SAMPLE:	3033075
--	------------	---------	---------	---------

Date: 01/18/2022 02:19 PM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	47.3	49.4	104	80-120	
Barium	mg/kg	47.3	49.0	104	80-120	
Cadmium	mg/kg	47.3	47.7	101	80-120	
Chromium	mg/kg	47.3	49.5	105	80-120	
Lead	mg/kg	47.3	46.2	97	80-120	
Lithium	mg/kg	47.3	50.4	106	80-120 N	2
Selenium	mg/kg	47.3	48.2	102	80-120	
Silver	mg/kg	23.7	23.0	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3033	076		3033077							
Parameter	5 Units	0306781001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	8.1	53.7	56.7	58.0	63.9	93	98	75-125	10	20	
Barium	mg/kg	66.2	53.7	56.7	144	132	145	116	75-125	9	20	M0
Cadmium	mg/kg	ND	53.7	56.7	49.7	54.1	92	95	75-125	8	20	
Chromium	mg/kg	11.7	53.7	56.7	64.3	64.3	98	93	75-125	0	20	
Lead	mg/kg	31.5	53.7	56.7	73.5	75.7	78	78	75-125	3	20	
Lithium	mg/kg	9.0	53.7	56.7	62.6	66.2	100	101	75-125	5	20	N2
Selenium	mg/kg	ND	53.7	56.7	48.8	53.3	90	93	75-125	9	20	
Silver	mg/kg	ND	26.8	28.3	23.7	25.9	88	91	75-125	9	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.



Project: M2

M20032 Muncie Phase II

Pace Project No.:

50306796

QC Batch:
QC Batch Method:

658420

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306796001, 50306796002

SAMPLE DUPLICATE: 3033111

50306805001 Dup Max RPD RPD Parameter Units Result Result Qualifiers 20.5 5 N2 Percent Moisture % 19.9 3

SAMPLE DUPLICATE: 3033112

 50306805002
 Dup
 Max

 Parameter
 Units
 Result
 Result
 RPD
 RPD

ParameterUnitsResultResultRPDRPDQualifiersPercent Moisture%21.224.5145 N2,R1

SAMPLE DUPLICATE: 3033767

Date: 01/18/2022 02:19 PM

50306793001 Dup Max RPD RPD Parameter Units Result Result Qualifiers Percent Moisture % 27.8 26.7 4 5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

#### **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**

Date: 01/18/2022 02:19 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306796

Date: 01/18/2022 02:19 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306796001	E84S	EPA 3050	658262	EPA 6010	658576
50306796002	E86S	EPA 3050	658262	EPA 6010	658576
50306796001	E84S	EPA 7471	658622	EPA 7471	658891
50306796002	E86S	EPA 7471	658622	EPA 7471	658891
50306796001	E84S	SM 2540G	658420		
50306796002	E86S	SM 2540G	658420		

Pace Analytical		sample via this Conditions	-CUSTOD chain of custod found at: https: custody is a LE	constitutes a	cknowledgment s.com/hubfs/pa	t and acceptan as-standard-ter	ce of the P		and		U	AB USE O	NLY- Affin	MO#:	503	06796
Company: Mundell and Associate	es, Inc.		Billing Info	rmation:						1		ALL	BO I			
Address: 110 S Downey Ave, Indi	anapolis, IN 4621	19	1105	110 S Downey Ave, Indianapolis, IN 46219						Containe	er Pre	50308796	181811			
Report To: Luke Johnstone			Email To: 1	johnstone	@mundella	ssociates.co	om						nitric ac.	, , acia, (:		c acid, (4) sodium hydroxide, (5) zinc acetate,
Сору То:			Site Collect	tion Info/A 1 S Hoyt St		Muncie, I	ndiana						(D) TSP, (U	) Unpreserved, (O	The second of the second	, (A) ascorbic acid, (B) ammonium sulfate,
Customer Project Name/Number M20032 Muncie Phase II				County/City Muncie		e Zone Colle		X ]ET	-5				Analys	es		Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellasso	Site/Facility II	D#:			-	e Monitori			11							Custody Signatures Present Y N NA Collector Signature Present Y N NA
Collected By (print): Luke Johnstone /Andy Miller	Purchase Ord Quote #:	ler#:			DW PWS II					via EPA 6010B						Bottles Intact Y N NA Correct Bottles Y N NA Sufficient Volume Y N NA
Collected By (signature):	Turnaround D	Date Required: edite Charges Apply) e Day [ ] Next Day			[x] Yes [ ] No				ia EPA						Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA	
Sample disposal: [x] Dispose as appropriate	[ ] Same	Day [ ] N	2.13.6		100000000000000000000000000000000000000	ed (if appli	cable):		o	Lithium v						Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Ci Strips:
[ ] Return [ ] Archive:	[ ] 2 Day [ ] 4 Day			_ (1)	Analysis: _			_	Type: Plastic (P)	Metals + U						Sample pH Acceptable Y N NA pH Strips:
* Matrix Codes (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (							),		rype: P	00				8		Sulfide Present Y N NA Lead Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab	11,000,000	ted (or ite Start)	Compo	site End	Res Cl	# of Ctns	Container	Total RCRA						LAB USE ONLY: Lab Sample # / Comments:
			Date	Time	Date	Time			_							SEE SCUR
E84S	SL	Grab	1/7	14:50				1	G	X	-					
E86S	SL	Grab	1/7	14:45				1	G	X						002
	1															TO THE STREET
	1															
Customer Remarks / Special Con Total RCRA 8 Metals + Lithiun		Hazards:	Type of Ice	200	Wet	Blue	Dry	None			0.000	HOLDS F	PRESENT (	<72 hours) : \	Y N N/A	LAB Sample Temperature Info: Temp Blank Received: N N Therm ID#:

ents: ature Info: i ved: N NA Cooler 1 Temp Upon Receipt: Orac Cooler 1 Therm Corr. Factor Oc Cooler 1 Corrected Temp: Oc Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA FEDEX UPS Client Courier Pace Courier Comments: Date/Time: Date/Time: MTJL LAB USE ONLY Relinquished by/Company (Signature) 12 20 Received by/Company: (Signature) 1220 Table #: Relinquished by/Company: (Signature) Date/Time: Date/Time: Acctnum: Trip Blank Received: Y N NA Received by/Company: (Signature) Template: HCL MeOH TSP Other 1310 Received by/Company: (Signature) Prelogin: Non Conformance(s): Page: Date/Time: PM: Relinquished by/Company: (Signature) Date/Time: PB: YES / NO Page 13 of 15

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

Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents  1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG  2. Custody Seal on Cooler/Box Present: ☐ Yes	CE U		OTHER5. Packing Material:	☑ Bubbl		
(If yes)Seals Intact:	if no seals v	were prese	6. Ice Type: Wet 🗆 Blue 🗀 None			
4. Cooler Temperature: U.Q/Q. G  Temp should be above freezing to 6°C (Initial/Corrected)	-		7. If temp. is over 6°C or under 0°C, was the PM	notified?	: Yes	□ No
All	discrepanc	ies will be	written out in the comments section below.			
	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.			,
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			/
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A/
Rush TAT Requested (4 days or less):	1	<b>/</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)		100 127	1
Custody Signatures Present?	<b> </b>		Headspace Wisconsin Sulfide?		4	1
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vias Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<b>V</b>		Trip Blank Present?	7.5	1	<u> </u>
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC	PAGE	of	1

# Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that	are	out	of	conf	ormance	*
------	-----	-----	----	------	---------	---

		Kit																								that a	re out of	contorn	nance *
COC Line	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Desd	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	BP3B	BP3Z	ССЗН	Syringe Kît	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	1	+			1								1								-					ST			
2	L			1																						11			
3																14				1									
4							-													11									
5		11.4					111				/ 1																		
6																													
7																													
8																								- 1	4-11				
9								1				7-1														$\perp$			
10																					- 11	111							
11																							11.0						
12	1	1		1.5			j = 1															-01		-				1 1	

Con	ta	inet	Co	d	0
COLL	œ	1101	00	u	0

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

	Plastic / Misc.  BP4U 125mL unpreserved plastic							
1	BP4U	125mL unpreserved plastic						
1	BP4N	125mL HNO3 plastic						

BP4N 125mL HNO3 plastic BP4s 125mL H2SO4 plastic

Syringe Kit	LL Cr+6 sampling kit

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

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





January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

**Enclosures** 







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306616001	A47-sed	Solid	01/06/22 12:25	01/07/22 12:35



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306616001	A47-sed	EPA 6010	JDG	8	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306616001	A47-sed					
EPA 6010	Arsenic	3.4	mg/kg	1.5	01/13/22 10:44	
EPA 6010	Barium	85.4	mg/kg	1.5	01/13/22 10:44	
EPA 6010	Chromium	9.3	mg/kg	1.5	01/13/22 10:44	
EPA 6010	Lead	40.8	mg/kg	1.5	01/13/22 10:44	
EPA 6010	Lithium	9.0	mg/kg	7.5	01/13/22 10:44	N2
SM 2540G	Percent Moisture	42.7	%	0.10	01/08/22 08:53	N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

Sample: A47-sed	Lab ID: 503	06616001	Collected: 01/06/2	22 12:2	5 Received: 01	/07/22 12:35 N	fatrix: Solid	
Results reported on a "dry weigi	ht" basis and are ad	iusted for pe	ercent moisture, sa	mple s	size and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Metl	hod: EPA 60°	10 Preparation Met	hod: EF	PA 3050			
	Pace Analytica	al Services -	Indianapolis					
Arsenic	3.4	mg/kg	1.5	1	01/11/22 10:22	01/13/22 10:44	7440-38-2	
Barium	85.4	mg/kg	1.5	1		01/13/22 10:44		
Cadmium	ND	mg/kg	0.75	1		01/13/22 10:44		
Chromium	9.3	mg/kg	1.5	1		01/13/22 10:44		
_ead	40.8	mg/kg	1.5	1		01/13/22 10:44		
Selenium	ND	mg/kg	1.5	1		01/13/22 10:44		
Silver	ND	mg/kg	0.75	1		01/13/22 10:44		
Lithium	9.0	mg/kg	7.5	1		01/13/22 10:44		N2
_ittiidiii	9.0	mg/kg	7.5	'	01/11/22 10.22	01/13/22 10.44	7439-93-2	INZ
8260 MSV 5035A VOA	Analytical Metl	hod: EPA 826	60					
	Pace Analytica	al Services -	Indianapolis					
Acetone	ND	ug/kg	195	1		01/10/22 22:36	67-64-1	
Acrolein	ND	ug/kg	195	1		01/10/22 22:36		
Acrylonitrile	ND	ug/kg	195	1		01/10/22 22:36	107-13-1	
Benzene	ND	ug/kg	9.8	1		01/10/22 22:36		R1
Bromobenzene	ND	ug/kg	9.8	1		01/10/22 22:36		
Bromochloromethane	ND	ug/kg	9.8	1		01/10/22 22:36		
Bromodichloromethane	ND	ug/kg	9.8	1		01/10/22 22:36		
Bromoform	ND	ug/kg	9.8	1		01/10/22 22:36		
Bromomethane	ND	ug/kg	9.8	1		01/10/22 22:36		
2-Butanone (MEK)	ND	ug/kg	48.8	1		01/10/22 22:36		
n-Butylbenzene	ND	ug/kg	9.8	1		01/10/22 22:36		
sec-Butylbenzene	ND	ug/kg	9.8	1		01/10/22 22:36		
tert-Butylbenzene	ND	ug/kg	9.8	1		01/10/22 22:36		
Carbon disulfide	ND	ug/kg	19.5	1		01/10/22 22:36		
Carbon tetrachloride	ND	ug/kg	9.8	1		01/10/22 22:36		
Chlorobenzene	ND	ug/kg	9.8	1		01/10/22 22:36		R1
Chloroethane	ND	ug/kg	9.8	1		01/10/22 22:36		
Chloroform	ND	ug/kg	9.8	1		01/10/22 22:36		R1
Chloromethane	ND	ug/kg	9.8	1		01/10/22 22:36		
2-Chlorotoluene	ND	ug/kg	9.8	1		01/10/22 22:36		
4-Chlorotoluene	ND	ug/kg	9.8	1		01/10/22 22:36		
Dibromochloromethane	ND	ug/kg	9.8	1		01/10/22 22:36		
1,2-Dibromoethane (EDB)	ND	ug/kg	9.8	1		01/10/22 22:36		R1
Dibromomethane	ND ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		13.1
1,2-Dichlorobenzene	ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		
1,3-Dichlorobenzene	ND ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		
1,4-Dichlorobenzene	ND ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		
rans-1,4-Dichloro-2-butene	ND ND	ug/kg ug/kg	195	1		01/10/22 22:36		
Dichlorodifluoromethane	ND ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		
1.1-Dichloroethane	ND ND	ug/kg ug/kg	9.8	1		01/10/22 22:36		
1,2-Dichloroethane	ND ND		9.8	1		01/10/22 22:36		R1
1,1-Dichloroethene	ND ND	ug/kg		1		01/10/22 22:36		
r,1-Dichloroethene cis-1,2-Dichloroethene	ND ND	ug/kg	9.8 9.8	1		01/10/22 22:36 01/10/22 22:36		R1
JIS- I ,Z-DICHIUI OECHENE	ND ND	ug/kg	9.8 9.8	1		01/10/22 22:36 01/10/22 22:36		R1 R1

Matrix: Solid

CAS No.

Qual



#### **ANALYTICAL RESULTS**

Collected: 01/06/22 12:25

DF

Report Limit

Received: 01/07/22 12:35

Analyzed

01/10/22 22:36 103-65-1

01/10/22 22:36 100-42-5

01/10/22 22:36 630-20-6

01/10/22 22:36 79-34-5

01/10/22 22:36 127-18-4

01/10/22 22:36 87-61-6

01/10/22 22:36 120-82-1

01/10/22 22:36 71-55-6

01/10/22 22:36 79-00-5

01/10/22 22:36 79-01-6

01/10/22 22:36 75-69-4

01/10/22 22:36 96-18-4

01/10/22 22:36 95-63-6

01/10/22 22:36 108-67-8

01/10/22 22:36 108-05-4

01/10/22 22:36 75-01-4

01/10/22 22:36 1330-20-7

01/10/22 22:36 1868-53-7

01/10/22 22:36 2037-26-5

01/10/22 22:36 460-00-4

108-88-3

01/10/22 22:36

Prepared

Lab ID: 50306616001

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

101

100

81

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

ug/kg

%.

%.

%.

Results

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Units

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

**Parameters** 

Sample: A47-sed

n-Propylbenzene

Tetrachloroethene

1,1,1,2-Tetrachloroethane

1.1.2.2-Tetrachloroethane

1,2,3-Trichlorobenzene

1,2,4-Trichlorobenzene

1.1.1-Trichloroethane

1.1.2-Trichloroethane

Trichlorofluoromethane

1,2,3-Trichloropropane

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene

Dibromofluoromethane (S)

4-Bromofluorobenzene (S)

Date: 01/17/2022 02:08 PM

Trichloroethene

Vinyl acetate

Vinyl chloride

Xylene (Total)

Toluene-d8 (S)

Surrogates

Styrene

Toluene

8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis ND 9.8 1 01/10/22 22:36 78-87-5 1,2-Dichloropropane ug/kg R1 1,3-Dichloropropane ND ug/kg 9.8 1 01/10/22 22:36 142-28-9 2,2-Dichloropropane ND ug/kg 9.8 1 01/10/22 22:36 594-20-7 9.8 1,1-Dichloropropene ND ug/kg 1 01/10/22 22:36 563-58-6 cis-1,3-Dichloropropene ND ug/kg 9.8 1 01/10/22 22:36 10061-01-5 trans-1,3-Dichloropropene ND ug/kg 9.8 01/10/22 22:36 10061-02-6 1 Ethylbenzene ND 9.8 01/10/22 22:36 100-41-4 R1 ug/kg 1 195 Ethyl methacrylate NΠ 01/10/22 22:36 97-63-2 ug/kg 1 Hexachloro-1,3-butadiene ND 9.8 01/10/22 22:36 87-68-3 ug/kg 1 n-Hexane ND 9.8 01/10/22 22:36 110-54-3 ug/kg 1 2-Hexanone ND ug/kg 195 1 01/10/22 22:36 591-78-6 Iodomethane ND ug/kg 195 1 01/10/22 22:36 74-88-4 Isopropylbenzene (Cumene) ND ug/kg 9.8 1 01/10/22 22:36 98-82-8 R1 p-Isopropyltoluene ND 9.8 01/10/22 22:36 99-87-6 ug/kg 1 Methylene Chloride ND ug/kg 39.1 1 01/10/22 22:36 75-09-2 01/10/22 22:36 90-12-0 1-Methylnaphthalene ND ug/kg 19.5 1 2-Methylnaphthalene ND ug/kg 19.5 1 01/10/22 22:36 91-57-6 4-Methyl-2-pentanone (MIBK) ND 48.8 ug/kg 1 01/10/22 22:36 108-10-1 Methyl-tert-butyl ether ND ug/kg 9.8 01/10/22 22:36 1634-04-4 R1 1 ND Naphthalene ug/kg 9.8 1 01/10/22 22:36 91-20-3 R1

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## REPORT OF LABORATORY ANALYSIS

R1

R1

R1

R1

R1

R1

RS



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

Sample: A47-sed Lab ID: 50306616001 Collected: 01/06/22 12:25 Received: 01/07/22 12:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Results reported on a dry weight	Dasis and are ad	justea for per	icenii moisture, sa	iiipie si	ze anu any unu	แบทร.				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
Percent Moisture  Analytical Method: SM 2540G  Pace Analytical Services - Indianapolis										
Percent Moisture	42.7	%	0.10	1		01/08/22 08:53		N2		



Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306616001

METHOD BLANK: 3032509 Matrix: Solid

Associated Lab Samples: 50306616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

LABORATORY CONTROL SAMPLE:	3032510					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N	12
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3032	511		3032512							
	5	0306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	M0
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

			MS	MSD								
	5	0306619001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	 16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	MO
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

QC Batch: 658080 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306616001

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306616001

Parameter         Units         Result         Limit         Analyzed         Qualifiers           1,1,1,2-Tetrachloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,1-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,2-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trimethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorop			Blank	Reporting		
1,1,1-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1,2,2-Tetrachloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trinchlylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-D	Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,2,2-Tetrachloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,2-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trinethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-4-Trimethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorobenzene	1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloro	1,1,1-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dich	1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorop	1,1,2-Trichloroethane		ND	5.0	01/10/22 19:46	
1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dich	1,1-Dichloroethane		ND	5.0	01/10/22 19:46	
1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropthane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,3-5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       5.0       01/10/22 19:46         2-Chlorotolu	1,1-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK	1,1-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK) </td <td>1,2,3-Trichlorobenzene</td> <td>ug/kg</td> <td>ND</td> <td>5.0</td> <td>01/10/22 19:46</td> <td></td>	1,2,3-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK) <td>1,2,3-Trichloropropane</td> <td>ug/kg</td> <td>ND</td> <td>5.0</td> <td>01/10/22 19:46</td> <td></td>	1,2,3-Trichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)	1,2,4-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       5.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2,4-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,3,5-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,4-Dichlorobenzene     ug/kg     ND     5.0     01/10/22 19:46       1-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       2,2-Dichloropropane     ug/kg     ND     5.0     01/10/22 19:46       2-Butanone (MEK)     ug/kg     ND     25.0     01/10/22 19:46       2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	1,3-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       100       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,3-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       100       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,4-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
2-Butanone (MEK)     ug/kg     ND     25.0     01/10/22 19:46       2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	1-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	2,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	2-Butanone (MEK)	ug/kg	ND	25.0	01/10/22 19:46	
2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	2-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
4-Chlorotoluene ug/kg ND 5.0 01/10/22 19:46	2-Hexanone	ug/kg	ND	100	01/10/22 19:46	
ů ů	2-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
4-Methyl-2-pentanone (MIBK) ug/kg ND 25.0 01/10/22 19:46	4-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
	4-Methyl-2-pentanone (MIBK)	ug/kg	ND	25.0	01/10/22 19:46	
Acetone ug/kg ND 100 01/10/22 19:46	Acetone	ug/kg	ND	100	01/10/22 19:46	
Acrolein ug/kg ND 100 01/10/22 19:46	Acrolein	ug/kg	ND	100	01/10/22 19:46	
Acrylonitrile ug/kg ND 100 01/10/22 19:46	Acrylonitrile	ug/kg	ND	100	01/10/22 19:46	
Benzene ug/kg ND 5.0 01/10/22 19:46	Benzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromobenzene ug/kg ND 5.0 01/10/22 19:46	Bromobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromochloromethane ug/kg ND 5.0 01/10/22 19:46	Bromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromodichloromethane ug/kg ND 5.0 01/10/22 19:46	Bromodichloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromoform ug/kg ND 5.0 01/10/22 19:46	Bromoform	ug/kg	ND	5.0	01/10/22 19:46	
Bromomethane ug/kg ND 5.0 01/10/22 19:46	Bromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Carbon disulfide ug/kg ND 10.0 01/10/22 19:46	Carbon disulfide	ug/kg	ND	10.0	01/10/22 19:46	
Carbon tetrachloride ug/kg ND 5.0 01/10/22 19:46	Carbon tetrachloride	ug/kg	ND	5.0	01/10/22 19:46	
Chlorobenzene ug/kg ND 5.0 01/10/22 19:46	Chlorobenzene	ug/kg		5.0	01/10/22 19:46	
Chloroethane ug/kg ND 5.0 01/10/22 19:46	Chloroethane	ug/kg	ND	5.0	01/10/22 19:46	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306616001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloroform	ug/kg	ND .	5.0	01/10/22 19:46	
Chloromethane	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
Dibromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Dibromomethane	ug/kg	ND	5.0	01/10/22 19:46	
ichlorodifluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
thyl methacrylate	ug/kg	ND	100	01/10/22 19:46	
thylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
lexachloro-1,3-butadiene	ug/kg	ND	5.0	01/10/22 19:46	
odomethane	ug/kg	ND	100	01/10/22 19:46	
sopropylbenzene (Cumene)	ug/kg	ND	5.0	01/10/22 19:46	
lethyl-tert-butyl ether	ug/kg	ND	5.0	01/10/22 19:46	
lethylene Chloride	ug/kg	ND	20.0	01/10/22 19:46	
Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
-Hexane	ug/kg	ND	5.0	01/10/22 19:46	
-Propylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
aphthalene	ug/kg	ND	5.0	01/10/22 19:46	
-Isopropyltoluene	ug/kg	ND	5.0	01/10/22 19:46	
ec-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
tyrene	ug/kg	ND	5.0	01/10/22 19:46	
rt-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
trachloroethene	ug/kg	ND	5.0	01/10/22 19:46	
oluene	ug/kg	ND	5.0	01/10/22 19:46	
ans-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
ans-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
ans-1,4-Dichloro-2-butene	ug/kg	ND	100	01/10/22 19:46	
richloroethene	ug/kg	ND	5.0	01/10/22 19:46	
richlorofluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
inyl acetate	ug/kg	ND	100	01/10/22 19:46	
inyl chloride	ug/kg	ND	5.0	01/10/22 19:46	
(ylene (Total)	ug/kg	ND	10.0	01/10/22 19:46	
-Bromofluorobenzene (S)	%.	97	40-149	01/10/22 19:46	
Dibromofluoromethane (S)	%.	101	73-132	01/10/22 19:46	
Toluene-d8 (S)	%.	96	66-148	01/10/22 19:46	

LABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	50	43.6	87	68-129	
1,1,2,2-Tetrachloroethane	ug/kg	50	44.1	88	67-137	
1,1-Dichloroethene	ug/kg	50	46.8	94	53-135	
1,2,4-Trimethylbenzene	ug/kg	50	44.1	88	61-125	
1,2-Dibromoethane (EDB)	ug/kg	50	48.7	97	68-125	

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

ABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
I,2-Dichloroethane	ug/kg	50	45.9	92	69-128	
1,2-Dichloropropane	ug/kg	50	45.7	91	70-130	
Senzene	ug/kg	50	45.9	92	69-125	
hlorobenzene	ug/kg	50	44.6	89	66-121	
hloroform	ug/kg	50	44.2	88	66-123	
s-1,2-Dichloroethene	ug/kg	50	44.5	89	67-122	
thylbenzene	ug/kg	50	46.0	92	57-126	
opropylbenzene (Cumene)	ug/kg	50	46.8	94	62-132	
ethyl-tert-butyl ether	ug/kg	50	47.0	94	66-136	
aphthalene	ug/kg	50	44.4	89	59-131	
trachloroethene	ug/kg	50	44.9	90	61-123	
uene	ug/kg	50	45.8	92	67-128	
ns-1,2-Dichloroethene	ug/kg	50	42.6	85	61-127	
chloroethene	ug/kg	50	44.6	89	64-122	
nyl chloride	ug/kg	50	41.4	83	42-148	
rlene (Total)	ug/kg	150	149	100	62-126	
Bromofluorobenzene (S)	%.			102	40-149	
promofluoromethane (S)	%.			99	73-132	
luene-d8 (S)	%.			98	66-148	

MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	ATE: 3032	293		3032294			·	·			
			MS	MSD								
	50	0306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/kg	ND	133	100	133	103	99	103	38-149	25	20	R1
1,1,2,2-Tetrachloroethane	ug/kg	ND	133	100	147	111	110	111	19-169	28	20	R1
1,1-Dichloroethene	ug/kg	ND	133	100	153	121	115	121	24-162	23	20	R1
1,2,4-Trimethylbenzene	ug/kg	ND	133	100	137	97.3	103	97	10-169	34	20	R1
1,2-Dibromoethane (EDB)	ug/kg	ND	133	100	130	89.7	98	90	19-153	37	20	R1
1,2-Dichloroethane	ug/kg	ND	133	100	134	98.6	100	99	32-146	30	20	R1
1,2-Dichloropropane	ug/kg	ND	133	100	129	99.1	97	99	39-141	26	20	R1
Benzene	ug/kg	ND	133	100	136	102	102	102	35-140	28	20	R1
Chlorobenzene	ug/kg	ND	133	100	120	80.5	90	80	16-142	40	20	R1
Chloroform	ug/kg	ND	133	100	133	102	100	102	30-146	27	20	R1
cis-1,2-Dichloroethene	ug/kg	ND	133	100	133	101	100	101	30-145	28	20	R1
Ethylbenzene	ug/kg	ND	133	100	131	88.5	98	88	10-150	38	20	R1
Isopropylbenzene (Cumene)	ug/kg	ND	133	100	131	91.6	99	92	10-153	36	20	R1
Methyl-tert-butyl ether	ug/kg	ND	133	100	138	106	104	106	45-153	26	20	R1
Naphthalene	ug/kg	ND	133	100	87.0	53.3	65	53	10-130	48	20	R1
Tetrachloroethene	ug/kg	ND	133	100	138	105	104	105	10-179	28	20	R1
Toluene	ug/kg	ND	133	100	139	98.1	104	98	20-158	34	20	R1
trans-1,2-Dichloroethene	ug/kg	ND	133	100	128	100	96	100	24-149	25	20	R1
Trichloroethene	ug/kg	ND	133	100	122	93.2	91	93	10-168	26	20	R1
Vinyl chloride	ug/kg	ND	133	100	136	105	102	105	10-165	26	20	R1

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## **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 3032	293		3032294							
			MS	MSD								
		50306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Xylene (Total)	ug/kg	ND	400	300	415	284	104	95	10-152	38	20	RS
4-Bromofluorobenzene (S)	%.						96	89	40-149			
Dibromofluoromethane (S)	%.						97	96	73-132			
Toluene-d8 (S)	%.						107	108	66-148			

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Project:

M20032 Muncie Phase II

Pace Project No.:

50306616

QC Batch:

QC Batch Method:

657974

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

SAMPLE DUPLICATE: 3031995

50306616001 Result

Dup Result

Max RPD RPD

Qualifiers

Percent Moisture

50306616001

Units %

42.7

47.6

11

5 N2,R1

SAMPLE DUPLICATE: 3031996

50306619001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Date: 01/17/2022 02:08 PM

Parameter Percent Moisture

Parameter

Units %

22.5

22.8

2

5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

#### **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.

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

Date: 01/17/2022 02:08 PM

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

The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A N2

complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

RS The RPD value in one of the constituent analytes was outside the control limits.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306616

Date: 01/17/2022 02:08 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306616001	A47-sed	EPA 3050	658130	EPA 6010	658450
50306616001	A47-sed	EPA 8260	658080		
50306616001	A47-sed	SM 2540G	657974		

										Ø	MO	#:	50	30	16	61	6	-			_
Pace Analytical Submitting a sample	N-OF-CUSTO e via this chain of cust onditions found at: ht ain-of-Custody is a	ody constitutes ps://info.pacela	acknowledgmen bs.com/hubfs/p	t and acceptant as-standard-ter	ce of the Pa		and			1						01	0		er Number	or	
Company: Mundell and Associates, Inc.	Billing In	formation:								3	0306	5616						E	ONLY		
Address: 110 S Downey Ave, Indianapolis, IN 46219	110	S Downey A	ve, Indianap	olis, IN 462	19					Cor	ntainer	Preserva	tive Tvi	oe **				1			1
Report To: Luke Johnstone	Email To	Email To: Ljohnstone@mundellassociates.com									6/U/O s: (1) ni	tric acid, (2	) sulfuri	c acid, (			id, (4) sodiun				4
Сору То:	Site Coll			Muncie, I	ndiana							o) TSP, (U) Analyse	Unprese			_DI wat	) ascorbic aci erab Profile/L		nium sulfate		
Customer Project Name/Number: M20032 Muncie Phase II	State: IN /	County/Ci Muncie	[ ]P	e Zone Colle T [ ]MT [	JCT [X	CJET				7		Allalyse				Ĺ	ab Sample ustody Se	Receipt als Pres	ent/Inta	et Y N NA	
Phone: 317-630-9060 Site/Facility ID #: Email: Ljohnstone@mundellassociates.com		-1-	Compliand [ ] Yes	e Monitorii	ng?			m								C	ustody Si ollector ottles In	Signatur			H
Collected By (print): Purchase Order # Luke Johnstone Quote #:		DW PWS I	on Code:			16	A 6010B						N	19	S	orrect Bo ufficient amples Re	Volume	n Too	Y N NA Y N NA Y N NA	ı	
Collected By (signature): Turnaround Date		[x] Yes [] No 8		via EPA							1 3	v	OA - Head SDA Regul	space Ac ated Soi	ceptable ls	Y N NA Y N NA					
Sample Dispose: Rush: (Expedite C [ ] Same Day [ ] Return [ ] 2 Day [ ] [ ] 4 Day [ ]	[ ] Next Day 3 Day	County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  County/City: / Muncie  Image: County/Ci	Field Filter [ ] Yes Analysis: _	ed (if applic	cable):		Plastic (P) or (	Total RCRA 8 Metals + Lithlum vla	als + Lithium	8260	EPA8260					R	amples in esidual C 1 Strips: ample pH H Strips:	Acceptab	Present	Y N NA Y N NA Y N NA	
<ul> <li>Matrix Codes (Insert in Matrix box below): Drinking \         Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (A</li> </ul>						-		A 8 Met	Total RCRA 8 Metals	list EPA	list					I	ulfide Pr ead Aceta	te Strip	s:	Y N NA	
	Grab Comp	osite Start)		site End	Res Cl	# of Ctns	Container Type:	otal RCR	otal RCF	VOC's full list	VOC's full						AB USE ON ab Sample	# / Com			
	Date	Time	Date	Time			S	F	Ţ	>	>		-				Jec	250	uk		
A47-sed (MS/MSD) SL	Grab 1/6	12:25				15	G	Х			х		100								
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										98											
									Icuo	DTIIO	I DC DI	DECEME!	72 have	-	/ N	NI/A	I AR Sar	nole Temp	erature Inf	0.	4
Customer Remarks / Special Conditions / Possible Haz Total RCRA 8 Metals + Lithium	NAME OF THE OWNER, OWNER, OWNE	The state of the state of	Wet ed:	Blue	Dry	None			1000	Tracki	V. Spiller	RESENT (<	72 HOU	15).	N.	N/A	Temp E	ID#:	eived:	y O N	3/4
VOC full list	Radche	n sample(s)	screened (<	600 cpm):	Y N	NA NA			7 1 2 2 2 2	ples re	UP		t Cou	irier 1	Pace Co	urier	Coole	1 Therm	Corr. F	p: 42 or	oC
Relinquished by Company: (Signature)	Date/Time:	2 11.00	Received to				_	16		Date/	Time:	ر الر، ه		MTJL ble #:	LAB US	E ONLY					
Relinquished by Company: (Signature)	Date/Time:	1235	Received t	Company	y: (Signar	ture)		_		Date/	+	12:3	Te	emplate elogin:	e:				Received: Y OH TSP		
Relinquished by/Company: (Signature)	Date/Time:		Received 8	y/Company	-	ture)				Date/	Time:						Non Conformance(s): Page: of:				of ?

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

Pace Analytical"

## SAMPLE CONDITION UPON RECEIPT FORM

Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAGE     Custody Seal on Cooler/Box Present: ☐ Yes	/	JSPS [	5. Facking material bubble wrap	Bubbl		
(If yes)Seals Intact:  Yes  No (leave blank  3. Thermometer: 123456 ABCDEF  4. Cooler Temperature:			6. Ice Type: ☑ Wet ☐ Blue ☐ None 7. If temp. is over 6°C or under 0°C, was the PM	notified?	: 🗆 Yes	□ No
All	discrepand	No No	e written out in the comments section below.	Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	/	/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.			1
Short Hold Time Analysis (48 hours or less)? Analysis:	/		HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			V
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 15	:32	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	1	1	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1/
Custody Signatures Present?	V		Headspace Wisconsin Sulfide?			No VOA Viale Sen
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	NO VOA VIAS SEN
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?		1	
Extra labels on Terracore Vials? (soils only)	<b>V</b>		Trip Blank Custody Seals?:			1
COMMENTS:						

COC	PAGE	1	of	- 1
COC	LYOL	_	_ 01 _	

# Sample Container Count

SBS MeOH (only)

\*\* Place a RED dot on containers

		Kit																								that a	re out of	conform	ance ""
COC Line Item	WGFU	R	резн Уезн	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзо	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	3	12																								SL			
2					1 - 1																								
3																													
4																					1 1								
5																												1	
6															-	- 1		-											
7																													
8																													
9																													
10																								1					
11																											1		
12																					. 11			-					

Container Codes

	Gla	SS				Plast
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syringe
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	V 5
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	С
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL (

as	tic / Misc.	
BP4U	125mL unpreserved plastic	
BP4N	125mL HNO3 plastic	
BP4S	125mL H2SO4 plastic	
	BP4U BP4N	BP4U 125mL unpreserved plastic BP4N 125mL HNO3 plastic BP4S 125mL H2SO4 plastic

	e Kit LL Cr+6 sampling kit	
AF	Air Filter	
AF C R	Air Cassettes	
R	Terracore kit	
	120mL Coliform Na Thiosulfate	
U	Summa Can	
ZPLC	Ziploc Bag	

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





January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
50306625001	SW-1 (MS/MSD)	Water	01/06/22 12:00	01/07/22 12:35	
50306625002	A48-sed	Solid	01/06/22 12:35	01/07/22 12:35	
50306625003	A49s	Solid	01/06/22 12:45	01/07/22 12:35	
50306625004	DUP	Solid	01/06/22 08:00	01/07/22 12:35	



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306625001	SW-1 (MS/MSD)	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 5030/8260	SLB	75	PASI-I
50306625002	A48-sed	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306625003	A49s	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I
50306625004	DUP	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		SM 2540G	ADT	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
60306625001	SW-1 (MS/MSD)					
EPA 6010	Barium	155	ug/L	10.0	01/11/22 11:38	
60306625002	A48-sed					
EPA 6010	Arsenic	7.8	mg/kg	1.7	01/13/22 11:21	
EPA 6010	Barium	93.9	mg/kg	1.7	01/13/22 11:21	
EPA 6010	Chromium	13.6	mg/kg	1.7	01/13/22 11:21	
EPA 6010	Lead	78.3	mg/kg	1.7	01/13/22 11:21	
EPA 6010	Lithium	11.6	mg/kg	8.7	01/13/22 11:21	N2
SM 2540G	Percent Moisture	49.2	%	0.10	01/08/22 08:55	N2
60306625003	A49s					
EPA 6010	Arsenic	7.2	mg/kg	1.7	01/13/22 11:24	
EPA 6010	Barium	115	mg/kg	1.7	01/13/22 11:24	
EPA 6010	Chromium	18.5	mg/kg	1.7	01/13/22 11:24	
EPA 6010	Lead	116	mg/kg	1.7	01/13/22 11:24	
EPA 6010	Lithium	15.4	mg/kg	8.3	01/13/22 11:24	N2
SM 2540G	Percent Moisture	40.7	%	0.10	01/08/22 08:55	N2
0306625004	DUP					
EPA 6010	Arsenic	7.9	mg/kg	1.4	01/13/22 11:26	
EPA 6010	Barium	107	mg/kg	1.4	01/13/22 11:26	
EPA 6010	Chromium	18.3	mg/kg	1.4	01/13/22 11:26	
PA 6010	Lead	111	mg/kg	1.4	01/13/22 11:26	
PA 6010	Lithium	15.7	mg/kg	7.1	01/13/22 11:26	N2
SM 2540G	Percent Moisture	38.6	%	0.10	01/08/22 08:55	N2



Project: M20032 Muncie Phase II

Date: 01/17/2022 01:53 PM

Sample: SW-1 (MS/MSD)	Lab ID: 503	06625001	Collected: 01/06/2	2 12:00	Received: 01	/07/22 12:35 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Met	nod: EPA 60	010 Preparation Meth	nod: EP/	A 3010			
	Pace Analytica	I Services -	Indianapolis					
Arsenic	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 11:38	7440-38-2	
Barium	155	ug/L	10.0	1		01/11/22 11:38		
Cadmium	ND	ug/L	2.0	1	01/10/22 10:22	01/11/22 11:38	7440-43-9	
Chromium	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 11:38	7440-47-3	
.ead	ND	ug/L	10.0	1		01/11/22 11:38		
ithium	ND	ug/L	20.0	1		01/11/22 11:38		
Selenium	ND	ug/L	10.0	1		01/11/22 11:38		
Silver	ND	ug/L	10.0	1		01/11/22 11:38		
		•	470 Preparation Meth			• , , , , , , , , , , , , , , , , , , ,		
7470 Mercury	Pace Analytica			iou. LF7	37470			
Mercury	ND	ug/L	2.0	1	01/14/22 06:55	01/14/22 12:20	7439-97-6	
260 MSV Indiana	Analytical Metl	nod: EPA 50	030/8260					
	Pace Analytica	I Services -	Indianapolis					
cetone	ND	ug/L	100	1		01/11/22 14:33	67-64-1	L1
crolein	ND	ug/L	50.0	1		01/11/22 14:33	107-02-8	
crylonitrile	ND	ug/L	100	1		01/11/22 14:33	107-13-1	
enzene	ND	ug/L	5.0	1		01/11/22 14:33		
Bromobenzene	ND	ug/L	5.0	1		01/11/22 14:33		
Bromochloromethane	ND	ug/L	5.0	1		01/11/22 14:33		
Bromodichloromethane	ND	ug/L	5.0	1		01/11/22 14:33		
Bromoform	ND	ug/L	5.0	1		01/11/22 14:33		
Bromomethane	ND	ug/L	5.0	1		01/11/22 14:33		
-Butanone (MEK)	ND	ug/L	25.0	1		01/11/22 14:33		
-Butylbenzene	ND ND	ug/L ug/L	5.0	1		01/11/22 14:33		
ec-Butylbenzene	ND ND	ug/L ug/L	5.0	1		01/11/22 14:33		
-	ND ND	•	5.0	1		01/11/22 14:33		
ert-Butylbenzene		ug/L						
Carbon disulfide	ND	ug/L	10.0	1		01/11/22 14:33		
Carbon tetrachloride	ND	ug/L	5.0	1		01/11/22 14:33		
Chlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33		
Chloroethane	ND	ug/L	5.0	1		01/11/22 14:33		
Chloroform	ND	ug/L	5.0	1		01/11/22 14:33		
Chloromethane	ND	ug/L	5.0	1		01/11/22 14:33		
-Chlorotoluene	ND	ug/L	5.0	1		01/11/22 14:33		
-Chlorotoluene	ND	ug/L	5.0	1		01/11/22 14:33		
Dibromochloromethane	ND	ug/L	5.0	1		01/11/22 14:33		
,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		01/11/22 14:33	106-93-4	
Dibromomethane	ND	ug/L	5.0	1		01/11/22 14:33	74-95-3	
,2-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33	95-50-1	
,3-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33	541-73-1	
,4-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33	106-46-7	
ans-1,4-Dichloro-2-butene	ND	ug/L	100	1		01/11/22 14:33	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	1		01/11/22 14:33		
,1-Dichloroethane	ND	ug/L	5.0	1		01/11/22 14:33		



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Sample: SW-1 (MS/MSD)	Lab ID: 5	0306625001	Collected: 01/06/2	2 12:00	Received:	01/07/22 12:35	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Indiana	Analytical M	ethod: EPA 50	030/8260					
	Pace Analyt	ical Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	5.0	1		01/11/22 14:33	3 107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		01/11/22 14:33		
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 14:33	3 156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 14:33	3 156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 14:33		
1,3-Dichloropropane	ND	ug/L	5.0	1		01/11/22 14:33		
2,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 14:33		
1,1-Dichloropropene	ND	ug/L	5.0	1		01/11/22 14:33		
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		01/11/22 14:33		
rans-1,3-Dichloropropene	ND	ug/L	5.0	1		01/11/22 14:33		
Ethylbenzene	ND	ug/L	5.0	1		01/11/22 14:33		
Ethyl methacrylate	ND ND	ug/L	100	1		01/11/22 14:33		
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1		01/11/22 14:33		
n-Hexane	ND	ug/L	5.0	1		01/11/22 14:33		
2-Hexanone	ND	ug/L ug/L	25.0	1		01/11/22 14:33		
odomethane	ND ND	•	10.0	1		01/11/22 14:33		
	ND ND	ug/L	5.0	1		01/11/22 14:33		
sopropylbenzene (Cumene)		ug/L						
o-Isopropyltoluene	ND	ug/L	5.0	1		01/11/22 14:33		
Methylene Chloride	ND	ug/L	5.0	1		01/11/22 14:33		
I-Methylnaphthalene	ND	ug/L	10.0	1		01/11/22 14:33		
2-Methylnaphthalene	ND	ug/L	10.0	1		01/11/22 14:33		
I-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1		01/11/22 14:33		
Methyl-tert-butyl ether	ND	ug/L	4.0	1		01/11/22 14:33		
Naphthalene	ND	ug/L	1.2	1		01/11/22 14:33		
n-Propylbenzene	ND	ug/L	5.0	1		01/11/22 14:33		
Styrene	ND	ug/L	5.0	1		01/11/22 14:33		
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		01/11/22 14:33	3 630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		01/11/22 14:33	3 79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1		01/11/22 14:33	3 127-18-4	
Toluene	ND	ug/L	5.0	1		01/11/22 14:33	3 108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		01/11/22 14:33	3 120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		01/11/22 14:33	3 71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		01/11/22 14:33	3 79-00-5	
Trichloroethene	ND	ug/L	5.0	1		01/11/22 14:33	3 79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1		01/11/22 14:33	3 75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	1		01/11/22 14:33	3 96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	1		01/11/22 14:33	3 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	1		01/11/22 14:33	3 108-67-8	
/inyl acetate	ND	ug/L	50.0	1		01/11/22 14:33		
/inyl chloride	ND	ug/L	2.0	1		01/11/22 14:33		
Xylene (Total)	ND	ug/L	10.0	1		01/11/22 14:33		
Surrogates	.,,	~ <del>3</del> , <b>–</b>	. 3.0	-				
Dibromofluoromethane (S)	102	%.	78-120	1		01/11/22 14:33	3 1868-53-7	
4-Bromofluorobenzene (S)	104	%.	78-117	1		01/11/22 14:33		
Toluene-d8 (S)	101	%.	77-118	1		01/11/22 14:33		



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Lab ID: 50306625002 Sample: A48-sed Collected: 01/06/22 12:35 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. Units **Parameters** Results Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis 7.8 1.7 01/11/22 10:22 01/13/22 11:21 Arsenic mg/kg 7440-38-2 **Barium** 93.9 mg/kg 1.7 01/11/22 10:22 01/13/22 11:21 7440-39-3 Cadmium ND mg/kg 0.87 01/11/22 10:22 01/13/22 11:21 7440-43-9 01/11/22 10:22 01/13/22 11:21 Chromium 13.6 mg/kg 1.7 7440-47-3 01/11/22 10:22 01/13/22 11:21 Lead 78.3 mg/kg 1.7 7439-92-1 Lithium 11.6 mg/kg 8.7 01/11/22 10:22 01/13/22 11:21 7439-93-2 N2 1 Selenium ND 1.7 01/11/22 10:22 01/13/22 11:21 7782-49-2 mg/kg 1 Silver NΠ 0.87 01/11/22 10:22 01/13/22 11:21 7440-22-4 mg/kg 1 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.40 01/11/22 11:25 01/13/22 09:20 7439-97-6 Mercury mg/kg 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND ug/kg 231 1 01/11/22 01:26 67-64-1 Acrolein ND ug/kg 231 1 01/11/22 01:26 107-02-8 ND 231 Acrylonitrile ug/kg 01/11/22 01:26 107-13-1 1 ND Benzene ug/kg 11.5 1 01/11/22 01:26 71-43-2 ND Bromobenzene 01/11/22 01:26 108-86-1 ug/kg 11.5 1 ND Bromochloromethane ug/kg 11.5 1 01/11/22 01:26 74-97-5 Bromodichloromethane ND ug/kg 11.5 1 01/11/22 01:26 75-27-4 Bromoform ND ug/kg 11.5 01/11/22 01:26 75-25-2 ND 01/11/22 01:26 74-83-9 Bromomethane ug/kg 11.5 1 2-Butanone (MEK) ND ug/kg 57.7 1 01/11/22 01:26 78-93-3 ug/kg n-Butylbenzene ND 11.5 1 01/11/22 01:26 104-51-8 ug/kg sec-Butylbenzene ND 11.5 01/11/22 01:26 135-98-8 1 tert-Butylbenzene ND 11.5 01/11/22 01:26 98-06-6 ug/kg 1 Carbon disulfide ND 23.1 01/11/22 01:26 75-15-0 ug/kg 1 01/11/22 01:26 56-23-5 Carbon tetrachloride ND ug/kg 11.5 1 01/11/22 01:26 108-90-7 Chlorobenzene ND ug/kg 11.5 1 Chloroethane ND ug/kg 11.5 1 01/11/22 01:26 75-00-3 Chloroform ND ug/kg 11.5 1 01/11/22 01:26 67-66-3 Chloromethane ND 11.5 01/11/22 01:26 74-87-3 ug/kg 1 2-Chlorotoluene ND ug/kg 11.5 1 01/11/22 01:26 95-49-8 01/11/22 01:26 106-43-4 4-Chlorotoluene ND ug/kg 11.5 1 Dibromochloromethane ND ug/kg 11.5 01/11/22 01:26 124-48-1 1 1,2-Dibromoethane (EDB) ND 11.5 01/11/22 01:26 106-93-4 ug/kg 1 ND 01/11/22 01:26 74-95-3 Dibromomethane 11.5 ug/kg 1 1,2-Dichlorobenzene ND 11.5 01/11/22 01:26 95-50-1 ug/kg 1 ND 1,3-Dichlorobenzene 11.5 01/11/22 01:26 541-73-1 ug/kg 1 1,4-Dichlorobenzene ND 01/11/22 01:26 106-46-7 ug/kg 11.5 1 trans-1,4-Dichloro-2-butene ND ug/kg 231 1 01/11/22 01:26 110-57-6 Dichlorodifluoromethane ND ug/kg 11.5 01/11/22 01:26 75-71-8 1,1-Dichloroethane ND 11.5 01/11/22 01:26 75-34-3 ug/kg

## **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Sample: A48-sed Lab ID: 50306625002 Collected: 01/06/22 12:35 Received: 01/07/22 12:35 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Metl	nod: EPA 826					<u> </u>	
	Pace Analytica							
1,2-Dichloroethane	ND	ug/kg	11.5	1		01/11/22 01:26	107-06-2	
1,1-Dichloroethene	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
cis-1,2-Dichloroethene	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
rans-1,2-Dichloroethene	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
1,2-Dichloropropane	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
,3-Dichloropropane	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
2,2-Dichloropropane	ND ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
1,1-Dichloropropene	ND ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
• •								
cis-1,3-Dichloropropene	ND	ug/kg	11.5	1 1		01/11/22 01:26		
rans-1,3-Dichloropropene	ND	ug/kg	11.5			01/11/22 01:26		
Ethylbenzene	ND	ug/kg	11.5	1		01/11/22 01:26		
Ethyl methacrylate	ND	ug/kg	231	1		01/11/22 01:26		
lexachloro-1,3-butadiene	ND	ug/kg	11.5	1		01/11/22 01:26		
n-Hexane	ND	ug/kg	11.5	1		01/11/22 01:26		
?-Hexanone	ND	ug/kg	231	1		01/11/22 01:26		
odomethane	ND	ug/kg	231	1		01/11/22 01:26		
sopropylbenzene (Cumene)	ND	ug/kg	11.5	1		01/11/22 01:26	98-82-8	
-Isopropyltoluene	ND	ug/kg	11.5	1		01/11/22 01:26	99-87-6	
lethylene Chloride	ND	ug/kg	46.2	1		01/11/22 01:26	75-09-2	
-Methylnaphthalene	ND	ug/kg	23.1	1		01/11/22 01:26	90-12-0	
-Methylnaphthalene	ND	ug/kg	23.1	1		01/11/22 01:26	91-57-6	
-Methyl-2-pentanone (MIBK)	ND	ug/kg	57.7	1		01/11/22 01:26	108-10-1	
Nethyl-tert-butyl ether	ND	ug/kg	11.5	1		01/11/22 01:26	1634-04-4	
laphthalene	ND	ug/kg	11.5	1		01/11/22 01:26	91-20-3	
-Propylbenzene	ND	ug/kg	11.5	1		01/11/22 01:26	103-65-1	
Styrene	ND	ug/kg	11.5	1		01/11/22 01:26	100-42-5	
,1,1,2-Tetrachloroethane	ND	ug/kg	11.5	1		01/11/22 01:26	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/kg	11.5	1		01/11/22 01:26	79-34-5	
etrachloroethene	ND	ug/kg	11.5	1		01/11/22 01:26		
oluene	ND	ug/kg	11.5	1		01/11/22 01:26		
,2,3-Trichlorobenzene	ND	ug/kg	11.5	1		01/11/22 01:26		
,2,4-Trichlorobenzene	ND	ug/kg	11.5	1		01/11/22 01:26		
,1,1-Trichloroethane	ND	ug/kg	11.5	1		01/11/22 01:26		
,1,2-Trichloroethane	ND	ug/kg	11.5	1		01/11/22 01:26		
richloroethene	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
richlorofluoromethane	ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
,2,3-Trichloropropane	ND ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
,2,4-Trimethylbenzene	ND ND	ug/kg ug/kg	11.5	1		01/11/22 01:26		
,2,4-Trimethylbenzene	ND ND		11.5			01/11/22 01:26		
•		ug/kg		1				
/inyl acetate	ND	ug/kg	231	1		01/11/22 01:26		
/inyl chloride	ND	ug/kg	11.5	1		01/11/22 01:26		
(ylene (Total)	ND	ug/kg	23.1	1		01/11/22 01:26	1330-20-7	
Surrogates	00	0/	70 400	4		04/44/00 04:00	1060 F2 7	
Dibromofluoromethane (S)	98	%.	73-132	1		01/11/22 01:26		
oluene-d8 (S)	103	%.	66-148	1		01/11/22 01:26	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Sample: A48-sed	Lab ID: 5030		Collected: 01/06/2				/latrix: Solid	
Results reported on a "dry weig	ht" basis and are adj	usted for pe	rcent moisture, sa	mple siz	ze and any dilu	ıtions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meth	od: EPA 826	0					
Surrogates								
4-Bromofluorobenzene (S)	85	%.	40-149	1		01/11/22 01:26	460-00-4	
Percent Moisture	Analytical Meth	od: SM 2540	)G					
	Pace Analytical	Services - Ir	ndianapolis					
Percent Moisture	49.2	%	0.10	1		01/08/22 08:55		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Sample: A49s	Lab ID: 503	06625003	Collected: 01/06/2	2 12:45	Received: 01	I/07/22 12:35 I	Matrix: Solid		
Results reported on a "dry weig	ht" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation Meth	nod: EP	A 3050				
	Pace Analytical Services - Indianapolis								
Arsenic	7.2	mg/kg	1.7	1	01/11/22 10:22	01/13/22 11:24	7440-38-2		
Barium	115	mg/kg	1.7	1	01/11/22 10:22	01/13/22 11:24	7440-39-3		
Cadmium	ND	mg/kg	0.83	1	01/11/22 10:22	01/13/22 11:24	7440-43-9		
Chromium	18.5	mg/kg	1.7	1	01/11/22 10:22	01/13/22 11:24	7440-47-3		
Lead	116	mg/kg	1.7	1	01/11/22 10:22	01/13/22 11:24	7439-92-1		
Lithium	15.4	mg/kg	8.3	1	01/11/22 10:22	01/13/22 11:24	7439-93-2	N2	
Selenium	ND	mg/kg	1.7	1	01/11/22 10:22	01/13/22 11:24	7782-49-2		
Silver	ND	mg/kg	0.83	1	01/11/22 10:22	01/13/22 11:24	7440-22-4		
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471				
	Pace Analytica	l Services -	Indianapolis						
Mercury	ND	mg/kg	0.33	1	01/11/22 11:25	01/13/22 09:23	7439-97-6		
Percent Moisture	Analytical Meth	nod: SM 254	40G						
	Pace Analytica	l Services -	Indianapolis						
Percent Moisture	40.7	%	0.10	1		01/08/22 08:55		N2	



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Sample: DUP	Lab ID: 503	06625004	Collected: 01/06/2	2 08:00	Received: 01	/07/22 12:35 N	/latrix: Solid	
Results reported on a "dry we	eight" basis and are adj	usted for p	ercent moisture, sa	mple s	ize and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	nod: EPA 60	10 Preparation Meth	nod: EP	A 3050			
	Pace Analytica	I Services -	Indianapolis					
Arsenic	7.9	mg/kg	1.4	1	01/11/22 10:22	01/13/22 11:26	7440-38-2	
Barium	107	mg/kg	1.4	1	01/11/22 10:22	01/13/22 11:26	7440-39-3	
Cadmium	ND	mg/kg	0.71	1	01/11/22 10:22	01/13/22 11:26	7440-43-9	
Chromium	18.3	mg/kg	1.4	1	01/11/22 10:22	01/13/22 11:26	7440-47-3	
Lead	111	mg/kg	1.4	1	01/11/22 10:22	01/13/22 11:26	7439-92-1	
Lithium	15.7	mg/kg	7.1	1	01/11/22 10:22	01/13/22 11:26	7439-93-2	N2
Selenium	ND	mg/kg	1.4	1	01/11/22 10:22	01/13/22 11:26	7782-49-2	
Silver	ND	mg/kg	0.71	1	01/11/22 10:22	01/13/22 11:26	7440-22-4	
7471 Mercury	Analytical Meth	nod: EPA 74	71 Preparation Meth	nod: EP	A 7471			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	mg/kg	0.33	1	01/11/22 11:25	01/13/22 09:25	7439-97-6	
Percent Moisture	Analytical Meth	nod: SM 25	10G					
	Pace Analytica	l Services -	Indianapolis					
Percent Moisture	38.6	%	0.10	1		01/08/22 08:55		N2



Project:

M20032 Muncie Phase II

Pace Project No.:

50306625

QC Batch:

658512

QC Batch Method: EPA 7470 Analysis Method:

EPA 7470

Analysis Description:

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

50306625001

Matrix: Water

Associated Lab Samples:

50306625001

Units

Blank Result Reporting Limit

Analyzed

104

5.0

Qualifiers

Mercury

Mercury

ug/L

ND

2.0 01/14/22 12:11

LABORATORY CONTROL SAMPLE:

Parameter

3034139

Units

ug/L

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Parameter Mercury

Units ug/L

5.2

3034141

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034140

MSD

50306625001 Result

ND

MS MSD Result Result

MS % Rec

MSD % Rec

98

% Rec **RPD** 

Max RPD

Parameter

Date: 01/17/2022 01:53 PM

MS

Spike Conc.

5

Spike Conc. 5

5.0

99

Limits

75-125

Qual 20 0

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.



Project:

M20032 Muncie Phase II

Pace Project No.:

50306625

QC Batch: QC Batch Method: 658134

EPA 7471

Analysis Method:

Analysis Description:

EPA 7471 7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306625002, 50306625003, 50306625004

METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

Parameter

50306625002, 50306625003, 50306625004

Blank Result Reporting

ND

Limit

Analyzed

104

Qualifiers

Mercury

Mercury

Units mg/kg

Units

mg/kg

0.19 01/13/22 08:58

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Date: 01/17/2022 01:53 PM

3032523

Spike Conc.

0.52

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3032524

MSD

3032525 MS

0.54

MSD Result

% Rec

Max

50306619001 Units Result

MS Spike

0.66

Spike Conc.

Result

MS % Rec 103

MSD % Rec

**RPD** 

RPD

Mercury

ND mg/kg

Conc.

0.66

0.72

0.74

106

Limits 75-125

20 2

Qual

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.

Qualifiers



### **QUALITY CONTROL DATA**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

LABORATORY CONTROL SAMPLE:

Date: 01/17/2022 01:53 PM

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306625002, 50306625003, 50306625004

METHOD BLANK: 3032509 Matrix: Solid

3032510

Associated Lab Samples: 50306625002, 50306625003, 50306625004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits
Arsenic	 	45.2	44.7	99	80-120

Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N2	
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3032	511		3032512							
			MS	MSD								
	5	0306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	M0
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3032	513		3032514							
	E	0306619001	MS Spike	MSD	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Spike Conc.	Result	Result	% Rec	% Rec	% Rec	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	M0
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

QC Batch: 658009 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306625001

METHOD BLANK: 3032099 Matrix: Water

Associated Lab Samples: 50306625001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	01/11/22 11:26	
Barium	ug/L	ND	10.0	01/11/22 11:26	
Cadmium	ug/L	ND	2.0	01/11/22 11:26	
Chromium	ug/L	ND	10.0	01/11/22 11:26	
Lead	ug/L	ND	10.0	01/11/22 11:26	
Lithium	ug/L	ND	20.0	01/11/22 11:26	
Selenium	ug/L	ND	10.0	01/11/22 11:26	
Silver	ug/L	ND	10.0	01/11/22 11:26	

LABORATORY CONTROL SAMPLE:	3032100					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	1000	1040	104	80-120	
Barium	ug/L	1000	1040	104	80-120	
Cadmium	ug/L	1000	998	100	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Lead	ug/L	1000	970	97	80-120	
Lithium	ug/L	1000	1040	104	80-120	
Selenium	ug/L	1000	1010	101	80-120	
Silver	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3032	101		3032102							
			MS	MSD								
	5	0306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	1000	1000	1110	1100	111	110	75-125	0	20	
Barium	ug/L	155	1000	1000	1260	1260	110	110	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1040	1040	104	104	75-125	0	20	
Chromium	ug/L	ND	1000	1000	1060	1060	106	105	75-125	1	20	
Lead	ug/L	ND	1000	1000	979	982	98	98	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1080	1090	107	108	75-125	1	20	
Selenium	ug/L	ND	1000	1000	1060	1060	105	106	75-125	0	20	
Silver	ug/L	ND	500	500	508	504	102	101	75-125	1	20	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

QC Batch: 658149 Analysis Method: EPA 5030/8260
QC Batch Method: EPA 5030/8260 Analysis Description: 8260 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306625001

METHOD BLANK: 3032569 Matrix: Water

Associated Lab Samples: 50306625001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,1-Trichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,2-Trichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2,3-Trichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	01/11/22 09:26	
1,3-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,3-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,4-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1-Methylnaphthalene	ug/L	ND	10.0	01/11/22 09:26	
2,2-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
2-Butanone (MEK)	ug/L	ND	25.0	01/11/22 09:26	
2-Chlorotoluene	ug/L	ND	5.0	01/11/22 09:26	
2-Hexanone	ug/L	ND	25.0	01/11/22 09:26	
2-Methylnaphthalene	ug/L	ND	10.0	01/11/22 09:26	
4-Chlorotoluene	ug/L	ND	5.0	01/11/22 09:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25.0	01/11/22 09:26	
Acetone	ug/L	ND	100	01/11/22 09:26	
Acrolein	ug/L	ND	50.0	01/11/22 09:26	
Acrylonitrile	ug/L	ND	100	01/11/22 09:26	
Benzene	ug/L	ND	5.0	01/11/22 09:26	
Bromobenzene	ug/L	ND	5.0	01/11/22 09:26	
Bromochloromethane	ug/L	ND	5.0	01/11/22 09:26	
Bromodichloromethane	ug/L	ND	5.0	01/11/22 09:26	
Bromoform	ug/L	ND	5.0	01/11/22 09:26	
Bromomethane	ug/L	ND	5.0	01/11/22 09:26	
Carbon disulfide	ug/L	ND	10.0	01/11/22 09:26	
Carbon tetrachloride	ug/L	ND	5.0	01/11/22 09:26	
Chlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
Chloroethane	ug/L	ND	5.0	01/11/22 09:26	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

METHOD BLANK: 3032569 Matrix: Water

Associated Lab Samples: 50306625001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloroform	ug/L	ND	5.0	01/11/22 09:26	
Chloromethane	ug/L	ND	5.0	01/11/22 09:26	
cis-1,2-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
cis-1,3-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
Dibromochloromethane	ug/L	ND	5.0	01/11/22 09:26	
Dibromomethane	ug/L	ND	5.0	01/11/22 09:26	
Dichlorodifluoromethane	ug/L	ND	5.0	01/11/22 09:26	
Ethyl methacrylate	ug/L	ND	100	01/11/22 09:26	
Ethylbenzene	ug/L	ND	5.0	01/11/22 09:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	01/11/22 09:26	
Iodomethane	ug/L	ND	10.0	01/11/22 09:26	
Isopropylbenzene (Cumene)	ug/L	ND	5.0	01/11/22 09:26	
Methyl-tert-butyl ether	ug/L	ND	4.0	01/11/22 09:26	
Methylene Chloride	ug/L	ND	5.0	01/11/22 09:26	
n-Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
n-Hexane	ug/L	ND	5.0	01/11/22 09:26	
n-Propylbenzene	ug/L	ND	5.0	01/11/22 09:26	
Naphthalene	ug/L	ND	1.2	01/11/22 09:26	
p-Isopropyltoluene	ug/L	ND	5.0	01/11/22 09:26	
sec-Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
Styrene	ug/L	ND	5.0	01/11/22 09:26	
tert-Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
Tetrachloroethene	ug/L	ND	5.0	01/11/22 09:26	
Toluene	ug/L	ND	5.0	01/11/22 09:26	
trans-1,2-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
trans-1,3-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	01/11/22 09:26	
Trichloroethene	ug/L	ND	5.0	01/11/22 09:26	
Trichlorofluoromethane	ug/L	ND	5.0	01/11/22 09:26	
Vinyl acetate	ug/L	ND	50.0	01/11/22 09:26	
Vinyl chloride	ug/L	ND	2.0	01/11/22 09:26	
Xylene (Total)	ug/L	ND	10.0	01/11/22 09:26	
4-Bromofluorobenzene (S)	%.	105	78-117	01/11/22 09:26	
Dibromofluoromethane (S)	%.	101	78-120	01/11/22 09:26	
Toluene-d8 (S)	%.	102	77-118	01/11/22 09:26	

LABORATORY CONTROL SAMPLE:	3032570					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.3	101	76-125	
1,1,1-Trichloroethane	ug/L	50	52.9	106	73-132	
1,1,2,2-Tetrachloroethane	ug/L	50	56.3	113	65-131	
1,1,2-Trichloroethane	ug/L	50	53.3	107	74-127	
1,1-Dichloroethane	ug/L	50	54.7	109	73-133	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

LABORATORY CONTROL SAMPLE:	3032570	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	ug/L		58.7	117	67-136	
I,1-Dichloropropene	ug/L	50	60.7	121	72-128	
1,2,3-Trichlorobenzene	ug/L	50	45.4	91	58-136	
,2,3-Trichloropropane	ug/L	50	49.9	100	69-126	
1,2,4-Trichlorobenzene	ug/L	50	46.5	93	48-149	
1,2,4-Trimethylbenzene	ug/L	50	52.0	104	68-122	
,2-Dibromoethane (EDB)	ug/L	50	50.4	101	76-126	
,2-Dichlorobenzene	ug/L	50	50.4	101	75-114	
,2-Dichloroethane	ug/L	50	54.8	110	69-135	
,2-Dichloropropane	ug/L	50	54.8	110	78-134	
,3,5-Trimethylbenzene	ug/L	50	51.6	103	68-120	
,3-Dichlorobenzene	ug/L	50	49.6	99	70-119	
,3-Dichloropropane	ug/L	50	53.1	106	70-119 74-131	
			49.2	98	69-117	
,4-Dichlorobenzene	ug/L	50 50	49.2 49.4	98 99	69-117 68-139	
-Methylnaphthalene	ug/L	50 50				
2,2-Dichloropropane	ug/L		54.5	109	61-127	
2-Butanone (MEK)	ug/L	250	315	126	56-164	
-Chlorotoluene	ug/L	50	51.5	103	74-115	
-Hexanone	ug/L	250	315	126	63-137	
-Methylnaphthalene	ug/L	50	51.6	103	62-129	
-Chlorotoluene	ug/L	50	51.1	102	74-115	
-Methyl-2-pentanone (MIBK)	ug/L	250	310	124	64-134	
cetone	ug/L	250	361	145	46-140 L1	
crolein	ug/L	1000	984	98	53-126	
crylonitrile	ug/L	250	287	115	68-132	
Benzene	ug/L	50	52.4	105	77-128	
Bromobenzene	ug/L	50	54.5	109	62-133	
Bromochloromethane	ug/L	50	58.3	117	71-124	
Bromodichloromethane	ug/L	50	53.9	108	70-124	
romoform	ug/L	50	45.7	91	65-116	
Bromomethane	ug/L	50	56.5	113	10-200	
Carbon disulfide	ug/L	50	52.0	104	70-131	
Carbon tetrachloride	ug/L	50	54.4	109	61-139	
Chlorobenzene	ug/L	50	49.8	100	76-124	
Chloroethane	ug/L	50	59.2	118	56-142	
Chloroform	ug/L	50	53.0	106	77-120	
Chloromethane	ug/L	50	52.7	105	29-141	
is-1,2-Dichloroethene	ug/L	50	52.1	104	72-127	
is-1,3-Dichloropropene	ug/L	50	53.9	108	71-131	
Dibromochloromethane	ug/L	50	49.6	99	69-132	
Dibromomethane	ug/L	50	52.4	105	76-130	
Dichlorodifluoromethane	ug/L	50	43.3	87	23-139	
thyl methacrylate	ug/L	50	56J	112	66-128	
Ithylbenzene	ug/L	50	50.7	101	76-119	
lexachloro-1,3-butadiene	ug/L	50	47.9	96	58-140	
odomethane	ug/L	50	48.7	97	10-200	
sopropylbenzene (Cumene)	ug/L	50	52.2	104	77-128	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

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ABORATORY CONTROL SAMPLE:	3032570					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
ethyl-tert-butyl ether	ug/L	50	56.0	112	75-129	
ethylene Chloride	ug/L	50	55.3	111	72-129	
Butylbenzene	ug/L	50	54.5	109	59-128	
Hexane	ug/L	50	57.1	114	75-141	
-Propylbenzene	ug/L	50	52.7	105	71-116	
aphthalene	ug/L	50	48.9	98	67-136	
-Isopropyltoluene	ug/L	50	51.5	103	67-123	
ec-Butylbenzene	ug/L	50	53.8	108	70-119	
yrene	ug/L	50	51.9	104	66-123	
rt-Butylbenzene	ug/L	50	51.6	103	54-133	
etrachloroethene	ug/L	50	47.3	95	70-124	
luene	ug/L	50	50.0	100	72-117	
ans-1,2-Dichloroethene	ug/L	50	52.2	104	75-133	
ans-1,3-Dichloropropene	ug/L	50	53.4	107	75-111	
ans-1,4-Dichloro-2-butene	ug/L	50	63.4J	127	39-147	
richloroethene	ug/L	50	51.4	103	75-130	
ichlorofluoromethane	ug/L	50	52.7	105	63-162	
nyl acetate	ug/L	200	187	93	42-139	
nyl chloride	ug/L	50	55.0	110	51-140	
vlene (Total)	ug/L	150	148	99	73-117	
Bromofluorobenzene (S)	%.			103	78-117	
bromofluoromethane (S)	%.			100	78-120	
oluene-d8 (S)	%.			100	77-118	

MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	CATE: 3032	571		3032572							
			MS	MSD								
	5	0306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	51.8	50.6	104	101	40-147	2	20	
1,1,1-Trichloroethane	ug/L	ND	50	50	53.5	53.5	107	107	53-161	0	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	55.0	54.0	110	108	58-134	2	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	53.9	54.0	108	108	60-141	0	20	
1,1-Dichloroethane	ug/L	ND	50	50	57.7	57.3	115	115	67-140	1	20	
1,1-Dichloroethene	ug/L	ND	50	50	62.1	59.7	124	119	59-154	4	20	
1,1-Dichloropropene	ug/L	ND	50	50	60.6	61.0	121	122	31-153	1	20	
1,2,3-Trichlorobenzene	ug/L	ND	50	50	42.8	41.5	86	83	10-151	3	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	50.8	49.8	102	100	63-140	2	20	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	42.0	39.5	84	79	10-156	6	20	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	50.6	49.9	101	100	11-145	1	20	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	52.1	51.0	104	102	54-144	2	20	
1,2-Dichlorobenzene	ug/L	ND	50	50	49.7	48.4	99	97	17-145	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	57.0	56.7	114	113	66-130	1	20	
1,2-Dichloropropane	ug/L	ND	50	50	56.6	56.4	113	113	65-136	0	20	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	51.3	50.0	103	100	11-143	2	20	
1,3-Dichlorobenzene	ug/L	ND	50	50	47.1	45.7	94	91	10-146	3	20	

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# **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX SI	PIKE DUPLIC	ATE: 3032			3032572							
			MS	MSD								
	50	306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qu
1,3-Dichloropropane	ug/L	ND	50	50	55.3	54.5	111	109	53-145	1	20	
1,4-Dichlorobenzene	ug/L	ND	50	50	47.0	45.3	94	91	17-141	4	20	
1-Methylnaphthalene	ug/L	ND	50	50	46.7	45.1	93	90	28-147	3	20	
2,2-Dichloropropane	ug/L	ND	50	50	53.6	53.7	107	107	35-142	0	20	
2-Butanone (MEK)	ug/L	ND	250	250	314	309	126	124	49-173	2	20	
2-Chlorotoluene	ug/L	ND	50	50	51.2	49.9	102	100	10-148	3	20	
2-Hexanone	ug/L	ND	250	250	311	308	124	123	57-142	1	20	
2-Methylnaphthalene	ug/L	ND	50	50	47.5	45.4	95	91	15-141	5	20	
1-Chlorotoluene	ug/L	ND	50	50	50.2	48.8	100	98	11-142	3	20	
1-Methyl-2-pentanone MIBK)	ug/L	ND	250	250	310	306	124	123	59-139	1	20	
Acetone	ug/L	ND	250	250	394	379	157	152	44-171	4	20	
Acrolein	ug/L	ND	1000	1000	980	958	98	96	25-131	2	20	
Acrylonitrile	ug/L	ND	250	250	286	286	114	114	60-145	0	20	
Benzene	ug/L	ND	50	50	53.5	53.8	107	108	69-128	1	20	
Bromobenzene	ug/L	ND	50	50	55.7	53.3	111	107	10-157	5	20	
Bromochloromethane	ug/L	ND	50	50	63.3	63.2	127	126	58-138	0	20	
Bromodichloromethane	ug/L	ND	50	50	54.8	55.1	110	110	51-138	0	20	
Bromoform	ug/L	ND	50	50	45.5	44.1	91	88	43-130	3	20	
Bromomethane	ug/L	ND	50	50	62.0	59.5	124	119	10-195	4	20	
Carbon disulfide	ug/L	ND	50	50	55.7	54.4	111	109	37-149	2	20	
Carbon tetrachloride	ug/L	ND	50	50	54.7	55.4	109	111	39-155	1	20	
Chlorobenzene	ug/L	ND	50	50	50.4	50.0	101	100	28-147	1	20	
Chloroethane	ug/L	ND	50	50	66.4	65.4	133	131	58-158	2	20	
Chloroform	ug/L	ND	50	50	54.3	54.0	109	108	54-141	1	20	
Chloromethane	ug/L	ND	50	50	57.0	57.2	114	114	41-145	0		
cis-1,2-Dichloroethene	ug/L	ND	50	50	52.7	53.2	105	106	45-150	1	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	54.1	53.9	108	108	42-139	0		
Dibromochloromethane	ug/L	ND	50	50	51.1	50.1	102	100	48-139	2		
Dibromomethane	ug/L	ND	50	50	52.9	52.8	106	106	58-140	0		
Dichlorodifluoromethane	ug/L	ND	50	50	43.2	43.3	86	87	45-161	0		
Ethyl methacrylate	ug/L	ND	50	50	56.2J	55.2J	112	110	63-149	ŭ	20	
Ethylbenzene	ug/L	ND	50	50	50.5	49.7	101	99	36-144	2		
Hexachloro-1,3-butadiene	ug/L	ND	50	50	43.7	41.8	87	84	10-164	4		
odomethane	ug/L	ND	50	50	51.7	52.5	103	105	10-196	2		
sopropylbenzene Cumene)	ug/L	ND	50	50	52.8	51.7	106	103	21-148	2		
Methyl-tert-butyl ether	ug/L	ND	50	50	57.2	56.8	114	114	72-135	1	20	
Methylene Chloride	ug/L	ND	50	50	54.4	53.4	109	107	58-136	2		
n-Butylbenzene	ug/L	ND	50	50	51.5	49.5	103	99	10-147	4		
n-Hexane	ug/L	ND	50	50	57.2	58.1	114	116	52-157	2		
n-Propylbenzene	ug/L	ND	50	50	52.2	50.3	104	101	11-141	4		
Naphthalene	ug/L	ND	50	50	46.8	44.8	94	90	45-134	4		
o-Isopropyltoluene	ug/L	ND	50	50	50.5	48.6	101	97	10-149	4		
sec-Butylbenzene	ug/L	ND	50	50	53.2	51.7	106	103	10-148	3		
Styrene	ug/L	ND	50	50	53.3	51.6	107	103	19-143	3		

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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Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 3032	571 MS	MSD	3032572							
		50306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
tert-Butylbenzene	ug/L	ND	50	50	50.2	49.9	100	100	14-123	0	20	
Tetrachloroethene	ug/L	ND	50	50	46.9	46.7	94	93	26-148	1	20	
Toluene	ug/L	ND	50	50	50.9	50.9	101	101	46-134	0	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	52.5	52.0	105	104	43-155	1	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	54.8	53.0	110	106	39-132	3	20	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	61.5J	60.6J	123	121	18-143		20	
Trichloroethene	ug/L	ND	50	50	51.0	51.7	102	103	35-151	1	20	
Trichlorofluoromethane	ug/L	ND	50	50	55.0	54.3	110	109	55-170	1	20	
Vinyl acetate	ug/L	ND	200	200	176	173	88	87	24-134	2	20	
Vinyl chloride	ug/L	ND	50	50	57.6	57.2	115	114	59-146	1	20	
Xylene (Total)	ug/L	ND	150	150	151	148	101	99	32-140	2	20	
4-Bromofluorobenzene (S)	%.						106	104	78-117			
Dibromofluoromethane (S)	%.						101	102	78-120			
Toluene-d8 (S)	%.						101	99	77-118			

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

QC Batch: 658080 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306625002

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306625002

Parameter         Units         Result         Limit         Analyzed         Qualifiers           1,1,1,2-Tetrachloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,1-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,2-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trimethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorop			Blank	Reporting		
1,1,1-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1,2,2-Tetrachloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trinchlylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-D	Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,2,2-Tetrachloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1,2-Trichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethane         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           1,1-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2,3-Trichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,2,4-Trinethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-4-Trimethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,2-Dichloropropane         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorobenzene         ug/kg         ND         5.0         01/10/22 19:46           1,3-Dichlorobenzene	1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloro	1,1,1-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dich	1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloroethene       ug/kg       ND       5.0       01/10/22 19:46         1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorop	1,1,2-Trichloroethane		ND	5.0	01/10/22 19:46	
1,1-Dichloropropene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dich	1,1-Dichloroethane		ND	5.0	01/10/22 19:46	
1,2,3-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropthane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroptopane       ug/kg       ND       5.0       01/10/22 19:46         1,3-5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       5.0       01/10/22 19:46         2-Chlorotolu	1,1-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK	1,1-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK) </td <td>1,2,3-Trichlorobenzene</td> <td>ug/kg</td> <td>ND</td> <td>5.0</td> <td>01/10/22 19:46</td> <td></td>	1,2,3-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK) <td>1,2,3-Trichloropropane</td> <td>ug/kg</td> <td>ND</td> <td>5.0</td> <td>01/10/22 19:46</td> <td></td>	1,2,3-Trichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dibromoethane (EDB)       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)	1,2,4-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       5.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2,4-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloroethane       ug/kg       ND       5.0       01/10/22 19:46         1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3,5-Trimethylbenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         1,4-Dichlorobenzene       ug/kg       ND       5.0       01/10/22 19:46         1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       10.0       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,3,5-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,4-Dichlorobenzene     ug/kg     ND     5.0     01/10/22 19:46       1-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       2,2-Dichloropropane     ug/kg     ND     5.0     01/10/22 19:46       2-Butanone (MEK)     ug/kg     ND     25.0     01/10/22 19:46       2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	1,3-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       100       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,3-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2,2-Dichloropropane       ug/kg       ND       5.0       01/10/22 19:46         2-Butanone (MEK)       ug/kg       ND       25.0       01/10/22 19:46         2-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46         2-Hexanone       ug/kg       ND       100       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	1,4-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
2-Butanone (MEK)     ug/kg     ND     25.0     01/10/22 19:46       2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	1-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
2-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46       2-Hexanone     ug/kg     ND     100     01/10/22 19:46       2-Methylnaphthalene     ug/kg     ND     10.0     01/10/22 19:46       4-Chlorotoluene     ug/kg     ND     5.0     01/10/22 19:46	2,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2-Hexanone       ug/kg       ND       100       01/10/22 19:46         2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	2-Butanone (MEK)	ug/kg	ND	25.0	01/10/22 19:46	
2-Methylnaphthalene       ug/kg       ND       10.0       01/10/22 19:46         4-Chlorotoluene       ug/kg       ND       5.0       01/10/22 19:46	2-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
4-Chlorotoluene ug/kg ND 5.0 01/10/22 19:46	2-Hexanone	ug/kg	ND	100	01/10/22 19:46	
ů ů	2-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
4-Methyl-2-pentanone (MIBK) ug/kg ND 25.0 01/10/22 19:46	4-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
	4-Methyl-2-pentanone (MIBK)	ug/kg	ND	25.0	01/10/22 19:46	
Acetone ug/kg ND 100 01/10/22 19:46	Acetone	ug/kg	ND	100	01/10/22 19:46	
Acrolein ug/kg ND 100 01/10/22 19:46	Acrolein	ug/kg	ND	100	01/10/22 19:46	
Acrylonitrile ug/kg ND 100 01/10/22 19:46	Acrylonitrile	ug/kg	ND	100	01/10/22 19:46	
Benzene ug/kg ND 5.0 01/10/22 19:46	Benzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromobenzene ug/kg ND 5.0 01/10/22 19:46	Bromobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromochloromethane ug/kg ND 5.0 01/10/22 19:46	Bromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromodichloromethane ug/kg ND 5.0 01/10/22 19:46	Bromodichloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromoform ug/kg ND 5.0 01/10/22 19:46	Bromoform	ug/kg	ND	5.0	01/10/22 19:46	
Bromomethane ug/kg ND 5.0 01/10/22 19:46	Bromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Carbon disulfide ug/kg ND 10.0 01/10/22 19:46	Carbon disulfide	ug/kg	ND	10.0	01/10/22 19:46	
Carbon tetrachloride ug/kg ND 5.0 01/10/22 19:46	Carbon tetrachloride	ug/kg	ND	5.0	01/10/22 19:46	
Chlorobenzene ug/kg ND 5.0 01/10/22 19:46	Chlorobenzene	ug/kg		5.0	01/10/22 19:46	
Chloroethane ug/kg ND 5.0 01/10/22 19:46	Chloroethane	ug/kg	ND	5.0	01/10/22 19:46	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306625002

Parameter         Units         Result         Limit         Analyzed         Qualifiers           Chloroform         ug/kg         ND         5.0         01/10/22 19:46         Chloromethane         Ug/kg         ND         5.0<	,		Blank	Reporting		
Chloromethane         ug/kg         ND         5.0         01/10/22 19:46           cis-1,3-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           cis-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           Dibromomethane         ug/kg         ND         5.0         01/10/22 19:46           Ethyl methacrylate         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Hodardhylere-1,0-butadie         ug/kg	Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloromethane         ug/kg         ND         5.0         01/10/22 19:46           cis-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           cis-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           Dibromochloromethane         ug/kg         ND         5.0         01/10/22 19:46           Dibromomethane         ug/kg         ND         5.0         01/10/22 19:46           Ethylmerene         ug/kg         ND         5.0         01/10/22 19:46           Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Iedomethane         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyl ether         ug/kg         ND         5.0	Chloroform	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           cis-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           Dibromochloromethane         ug/kg         ND         5.0         01/10/22 19:46           Dibromomethane         ug/kg         ND         5.0         01/10/22 19:46           Dichlorodifluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Ethyl methacrylate         ug/kg         ND         5.0         01/10/22 19:46           Hethylencene         ug/kg         ND         5.0         01/10/22 19:46           Idedomethane         ug/kg         ND <td< td=""><td>Chloromethane</td><td></td><td>ND</td><td>5.0</td><td>01/10/22 19:46</td><td></td></td<>	Chloromethane		ND	5.0	01/10/22 19:46	
cis-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           Dibromochloromethane         ug/kg         ND         5.0         01/10/22 19:46           Dibromomethane         ug/kg         ND         5.0         01/10/22 19:46           Dichlorodifluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Ethyl methacrylate         ug/kg         ND         100         01/10/22 19:46           Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Isopropylbenzene (Cumene)         ug/kg         ND         5.0         01/10/22 19:46           Isopropylbenzene (Cumene)         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyl ether         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyle	cis-1,2-Dichloroethene		ND	5.0	01/10/22 19:46	
Dibromomethane	cis-1,3-Dichloropropene		ND	5.0	01/10/22 19:46	
Dichlorodifluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Ethyl methacrylate         ug/kg         ND         100         01/10/22 19:46           Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Iodomethane         ug/kg         ND         5.0         01/10/22 19:46           Isopropylbenzene (Cumene)         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyl ether         ug/kg         ND         5.0         01/10/22 19:46           Methylene Chloride         ug/kg         ND         5.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0	Dibromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Ethyl methacrylate         ug/kg         ND         100         01/10/22 19:46           Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Iodomethane         ug/kg         ND         5.0         01/10/22 19:46           Isopropylbenzene (Cumene)         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyl ether         ug/kg         ND         5.0         01/10/22 19:46           Methylene Chloride         ug/kg         ND         5.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           P-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0	Dibromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Ethylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Hexachloro-1,3-butadiene         ug/kg         ND         5.0         01/10/22 19:46           Iodomethane         ug/kg         ND         100         01/10/22 19:46           Isopropylbenzene (Cumene)         ug/kg         ND         5.0         01/10/22 19:46           Methyl-tert-butyl ether         ug/kg         ND         5.0         01/10/22 19:46           Methylbene Chloride         ug/kg         ND         20.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           P-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0	Dichlorodifluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
Hexachloro-1,3-butadiene   ug/kg   ND   5.0   01/10/22 19:46   lodomethane   ug/kg   ND   100   01/10/22 19:46   lsopropylbenzene (Cumene)   ug/kg   ND   5.0   01/10/22 19:46   lsopropylbenzene (Cumene)   ug/kg   ND   5.0   01/10/22 19:46   Methyl-tert-butyl ether   ug/kg   ND   5.0   01/10/22 19:46   Methylene Chloride   ug/kg   ND   20.0   01/10/22 19:46   Naphtylbenzene   ug/kg   ND   5.0   01/10/22 19:46   Naphthalene   ug/kg   ND   5.0   01/10/22 19:46   Styrene   ug/kg   ND   5.0   01/10/22 19:46   Tetrachloroethene   ug/kg   ND   5.0   01/10/22 19:46   Tetrachloroethene   ug/kg   ND   5.0   01/10/22 19:46   Trians-1,2-Dichloroethene   ug/kg   ND   5.0   01/10/22 19:46   Trans-1,3-Dichloropropene   ug/kg   ND   5.0   01/10/22 19:46   Trichloro-2-butene   ug/kg   ND   5.0   01/10/22 19:46   Trichloroethene   ug/kg   ND   5.0	Ethyl methacrylate	ug/kg	ND	100	01/10/22 19:46	
Iodomethane	Ethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Isopropylbenzene (Cumene)	Hexachloro-1,3-butadiene	ug/kg	ND	5.0	01/10/22 19:46	
Methyl-tert-butyl ether         ug/kg         ND         5.0         01/10/22 19:46           Methylene Chloride         ug/kg         ND         20.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           P-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetra-Butylbenzene         ug/kg         ND         5.0         01	Iodomethane	ug/kg	ND	100	01/10/22 19:46	
Methylene Chloride         ug/kg         ND         20.0         01/10/22 19:46           n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tertachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Tertachloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloroethene         ug/kg         ND         5.0	Isopropylbenzene (Cumene)	ug/kg	ND	5.0	01/10/22 19:46	
n-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/1	Methyl-tert-butyl ether	ug/kg	ND	5.0	01/10/22 19:46	
n-Hexane         ug/kg         ND         5.0         01/10/22 19:46           n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         5.0         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0 <td>Methylene Chloride</td> <td>ug/kg</td> <td>ND</td> <td>20.0</td> <td>01/10/22 19:46</td> <td></td>	Methylene Chloride	ug/kg	ND	20.0	01/10/22 19:46	
n-Propylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         5.0         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0 <td>n-Butylbenzene</td> <td>ug/kg</td> <td>ND</td> <td>5.0</td> <td>01/10/22 19:46</td> <td></td>	n-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Naphthalene         ug/kg         ND         5.0         01/10/22 19:46           p-Isopropyltoluene         ug/kg         ND         5.0         01/10/22 19:46           sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND <td< td=""><td>n-Hexane</td><td>ug/kg</td><td>ND</td><td>5.0</td><td>01/10/22 19:46</td><td></td></td<>	n-Hexane	ug/kg	ND	5.0	01/10/22 19:46	
p-Isopropyltoluene ug/kg ND 5.0 01/10/22 19:46 sec-Butylbenzene ug/kg ND 5.0 01/10/22 19:46 Styrene ug/kg ND 5.0 01/10/22 19:46 tert-Butylbenzene ug/kg ND 5.0 01/10/22 19:46 Tetrachloroethene ug/kg ND 5.0 01/10/22 19:46 Toluene ug/kg ND 5.0 01/10/22 19:46 trans-1,2-Dichloroethene ug/kg ND 5.0 01/10/22 19:46 trans-1,3-Dichloropropene ug/kg ND 5.0 01/10/22 19:46 trans-1,3-Dichloropropene ug/kg ND 5.0 01/10/22 19:46 trans-1,4-Dichloro-2-butene ug/kg ND 5.0 01/10/22 19:46 trans-1,4-Dichloro-2-butene ug/kg ND 5.0 01/10/22 19:46 Trichloroethene ug/kg ND 5.0 01/10/22 19:46 Trichlorofluoromethane ug/kg ND 5.0 01/10/22 19:46 Vinyl acetate ug/kg ND 5.0 01/10/22 19:46 Vinyl chloride ug/kg ND 5.0 01/10/22 19:46 Vinyl chloride ug/kg ND 5.0 01/10/22 19:46 Xylene (Total) ug/kg ND 5.0 01/10/22 19:46 4-Bromofluorobenzene (S) %. 97 40-149 01/10/22 19:46	n-Propylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
sec-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %         97	Naphthalene	ug/kg	ND	5.0	01/10/22 19:46	
Styrene         ug/kg         ND         5.0         01/10/22 19:46           tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           A-Bromofluorobenzene (S)         %         97         40-149         01/10/22 19:46	p-Isopropyltoluene	ug/kg	ND	5.0	01/10/22 19:46	
tert-Butylbenzene         ug/kg         ND         5.0         01/10/22 19:46           Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %         97         40-149         01/10/22 19:46	sec-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Tetrachloroethene         ug/kg         ND         5.0         01/10/22 19:46           Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %         97         40-149         01/10/22 19:46	Styrene	ug/kg	ND	5.0	01/10/22 19:46	
Toluene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	tert-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,2-Dichloroethene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %         97         40-149         01/10/22 19:46	Tetrachloroethene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,3-Dichloropropene         ug/kg         ND         5.0         01/10/22 19:46           trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	Toluene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,4-Dichloro-2-butene         ug/kg         ND         100         01/10/22 19:46           Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	trans-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Trichloroethene         ug/kg         ND         5.0         01/10/22 19:46           Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	trans-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
Trichlorofluoromethane         ug/kg         ND         5.0         01/10/22 19:46           Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	trans-1,4-Dichloro-2-butene	ug/kg	ND	100	01/10/22 19:46	
Vinyl acetate         ug/kg         ND         100         01/10/22 19:46           Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	Trichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Vinyl chloride         ug/kg         ND         5.0         01/10/22 19:46           Xylene (Total)         ug/kg         ND         10.0         01/10/22 19:46           4-Bromofluorobenzene (S)         %.         97         40-149         01/10/22 19:46	Trichlorofluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
Xylene (Total)       ug/kg       ND       10.0       01/10/22 19:46         4-Bromofluorobenzene (S)       %.       97       40-149       01/10/22 19:46	Vinyl acetate	ug/kg	ND	100	01/10/22 19:46	
4-Bromofluorobenzene (S) %. 97 40-149 01/10/22 19:46	Vinyl chloride	ug/kg	ND	5.0	01/10/22 19:46	
	Xylene (Total)	ug/kg	ND	10.0	01/10/22 19:46	
Dibromofluoromethane (S) %. 101 73-132 01/10/22 19:46	4-Bromofluorobenzene (S)	%.	97	40-149	01/10/22 19:46	
	Dibromofluoromethane (S)	%.	101	73-132	01/10/22 19:46	
Toluene-d8 (S) %. 96 66-148 01/10/22 19:46	Toluene-d8 (S)	%.	96	66-148	01/10/22 19:46	

LABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	50	43.6	87	68-129	
1,1,2,2-Tetrachloroethane	ug/kg	50	44.1	88	67-137	
1,1-Dichloroethene	ug/kg	50	46.8	94	53-135	
1,2,4-Trimethylbenzene	ug/kg	50	44.1	88	61-125	
1,2-Dibromoethane (EDB)	ug/kg	50	48.7	97	68-125	

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.



Project: M20032 Muncie Phase II

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_ABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane	ug/kg	50	45.9	92	69-128	
1,2-Dichloropropane	ug/kg	50	45.7	91	70-130	
enzene	ug/kg	50	45.9	92	69-125	
hlorobenzene	ug/kg	50	44.6	89	66-121	
Chloroform	ug/kg	50	44.2	88	66-123	
is-1,2-Dichloroethene	ug/kg	50	44.5	89	67-122	
thylbenzene	ug/kg	50	46.0	92	57-126	
opropylbenzene (Cumene)	ug/kg	50	46.8	94	62-132	
ethyl-tert-butyl ether	ug/kg	50	47.0	94	66-136	
aphthalene	ug/kg	50	44.4	89	59-131	
trachloroethene	ug/kg	50	44.9	90	61-123	
luene	ug/kg	50	45.8	92	67-128	
ans-1,2-Dichloroethene	ug/kg	50	42.6	85	61-127	
ichloroethene	ug/kg	50	44.6	89	64-122	
nyl chloride	ug/kg	50	41.4	83	42-148	
rlene (Total)	ug/kg	150	149	100	62-126	
Bromofluorobenzene (S)	%.			102	40-149	
oromofluoromethane (S)	%.			99	73-132	
oluene-d8 (S)	%.			98	66-148	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	ATE: 3032	293		3032294							
			MS	MSD								
	50	0306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/kg	ND	133	100	133	103	99	103	38-149	25	20	R1
1,1,2,2-Tetrachloroethane	ug/kg	ND	133	100	147	111	110	111	19-169	28	20	R1
1,1-Dichloroethene	ug/kg	ND	133	100	153	121	115	121	24-162	23	20	R1
1,2,4-Trimethylbenzene	ug/kg	ND	133	100	137	97.3	103	97	10-169	34	20	R1
1,2-Dibromoethane (EDB)	ug/kg	ND	133	100	130	89.7	98	90	19-153	37	20	R1
1,2-Dichloroethane	ug/kg	ND	133	100	134	98.6	100	99	32-146	30	20	R1
1,2-Dichloropropane	ug/kg	ND	133	100	129	99.1	97	99	39-141	26	20	R1
Benzene	ug/kg	ND	133	100	136	102	102	102	35-140	28	20	R1
Chlorobenzene	ug/kg	ND	133	100	120	80.5	90	80	16-142	40	20	R1
Chloroform	ug/kg	ND	133	100	133	102	100	102	30-146	27	20	R1
cis-1,2-Dichloroethene	ug/kg	ND	133	100	133	101	100	101	30-145	28	20	R1
Ethylbenzene	ug/kg	ND	133	100	131	88.5	98	88	10-150	38	20	R1
Isopropylbenzene (Cumene)	ug/kg	ND	133	100	131	91.6	99	92	10-153	36	20	R1
Methyl-tert-butyl ether	ug/kg	ND	133	100	138	106	104	106	45-153	26	20	R1
Naphthalene	ug/kg	ND	133	100	87.0	53.3	65	53	10-130	48	20	R1
Tetrachloroethene	ug/kg	ND	133	100	138	105	104	105	10-179	28	20	R1
Toluene	ug/kg	ND	133	100	139	98.1	104	98	20-158	34	20	R1
trans-1,2-Dichloroethene	ug/kg	ND	133	100	128	100	96	100	24-149	25	20	R1
Trichloroethene	ug/kg	ND	133	100	122	93.2	91	93	10-168	26	20	R1
Vinyl chloride	ug/kg	ND	133	100	136	105	102	105	10-165	26	20	R1

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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MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 3032	293		3032294							
		50306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Xylene (Total)	ug/kg	ND	400	300	415	284	104	95	10-152	38	20	RS
4-Bromofluorobenzene (S)	%.						96	89	40-149			
Dibromofluoromethane (S)	%.						97	96	73-132			
Toluene-d8 (S)	%.						107	108	66-148			

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.



Project:

M20032 Muncie Phase II

Pace Project No.:

QC Batch Method:

50306625

QC Batch: 657974 Analysis Method:

SM 2540G

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

50306616001

Pace Analytical Services - Indianapolis

50306625002, 50306625003, 50306625004 Associated Lab Samples:

SAMPLE DUPLICATE: 3031995

Parameter Units

Dup Result

Max RPD RPD

11

Qualifiers

Percent Moisture

%

Result 42.7

47.6

5 N2,R1

SAMPLE DUPLICATE: 3031996

Date: 01/17/2022 01:53 PM

50306619001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Parameter Percent Moisture

Units %

22.5

22.8

2

5 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.



### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

#### **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**

Date: 01/17/2022 01:53 PM

Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated
samples may be hiased high

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.

R1 RPD value was outside control limits.

RS The RPD value in one of the constituent analytes was outside the control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306625

Date: 01/17/2022 01:53 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306625002	A48-sed	EPA 3050	658130	EPA 6010	658450
50306625003	A49s	EPA 3050	658130	EPA 6010	658450
50306625004	DUP	EPA 3050	658130	EPA 6010	658450
50306625001	SW-1 (MS/MSD)	EPA 3010	658009	EPA 6010	658163
50306625001	SW-1 (MS/MSD)	EPA 7470	658512	EPA 7470	658586
50306625002	A48-sed	EPA 7471	658134	EPA 7471	658401
50306625003	A49s	EPA 7471	658134	EPA 7471	658401
50306625004	DUP	EPA 7471	658134	EPA 7471	658401
50306625001	SW-1 (MS/MSD)	EPA 5030/8260	658149		
50306625002	A48-sed	EPA 8260	658080		
50306625002	A48-sed	SM 2540G	657974		
50306625003	A49s	SM 2540G	657974		
50306625004	DUP	SM 2540G	657974		

Pace Analytical"		ample via this Condition	chain of custoo s found at: http:	ly constitutes a s://info.pacelal	ytical Reacknowledgments.com/hubfs/p	t and acceptan as-standard-ter	ce of the Pa rms.pdf		and						030 		25	order Nur	nber or
Company: Mundell and Associate	s, Inc.		Billing Info	rmation:								50	3066		ШШ			SE ONL	Y
Address: 110 S Downey Ave, India	napolis, IN 4621	9	1105	Downey A	ve, Indianap	olis, IN 462	19				-	30,	3000	25				er:	
Report To: Luke Johnstone			Email To:	Ljohnstone	e@mundella	ssociates.co	om				servativ	e Type		itric acid, (2)				4) sodium hydroxide, (5) zin	
Сору То:				tion Info/A BLK S Dela		Muncie, I	ndiana			12.00				D) TSP, (U) Ur	dium thiosulf opreserved, ((		Ol water_	corbic acid, (B) ammonium s	ulfate,
Customer Project Name/Number: M20032 Muncie Phase II			1	County/Cit Muncie	S	Zone Colle	ected:	CIET		636		185		Analyses			Lab	Profile/Line: Sample Receipt Checody Seals Present/1	
Phone: 317-630-9060	Site/Facility ID	#:			Compliand	e Monitorii								1- 1			Cust	ody Signatures Presence	ent Y N NA
Email: Ljohnstone@mundellassoci					[ ] Yes	[ ] No			1	8								les Intact	Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:	r#:			DW PWS I					6010B		1			2.0	11		rect Bottles icient Volume	Y N NA Y N NA
Collected By (signature):	Turnaround Da	ate Requir	ed:		-	ly Packed o	on Ice:		(9)	EPA (						1 93		oles Received on Ice	
11/2					[x] Yes	[]No			Glass (G)	ria E				3	1.00	Ju. 3		- Headspace Accepta Regulated Soils	ble Y N NA Y N NA
Sample Disposer: [ x ] Dispose as appropriate [ ] Return	Rush: (Expedit	ay [ ] N			Field Filter	ed (if applic	cable):		6	Lithium via	Lithium	0					Samp Resi Cl S	oles in Holding Time dual Chlorine Prese Strips:	Y N NA
[ ] Archive;	[ ] 4 Day [				Analysis: _				Plastic (P)	+ SI	+	8260	826(					ole pH Acceptable Strips:	Y N NA
* Matrix Codes (Insert in Matrix bo Product (P), Soil/Solid (SL), Oil (O		-					,		Type:	RCRA 8 Metals	Total RCRA 8 Metals	list EPA	ll list EPA8260				Sulf Lead	ide Present   Acetate Strips: _	Y N NA
Customer Sample ID	Matrix *	Grab	1 1 1 1 1 1 1 1	ted (or ite Start) Time	Compo	site End Time	Res	# of Ctns	Container	Total RCF	Total RCF	VOC's full	VOC's full list				AC-1, 24-21	USE ONLY: Sample # / Comment: Sel. Seuf	20.
SW-1 (MS/MSD)	w	Grab	1/6	12:00				12	-	1	X	X		1 8			(	201	The state of
															7	169	100		
A48-sed	SL	Grab	1/6	12:35				5	G	X			х			1000	0	XX2	
A49s	SL	Grab	1/6	12:45				1	G	x							5	03	7.0
DUP	SL	Grab	1/6					1	G	X							O	04	
Customer Remarks / Special Cond	itions / Possible I	lazarde:	Time of the	Head	14/	Dhie	100	Mana			CHO	T IIIO	LDC DD	ECENIT / -22	houses	/ N A	//	LAB Sample Temperatur	e Info:
Total RCRA 8 Metals + Lithium VOC full list	don's y rossible t	1020103.	Type of Ice Packing Ma		Wet d:	Blue C	Dry 1	None			Lab T	rackir	ng #:		hours):	r n n,		Temp Blank Received Therm ID#:	Receipt: 4.40C
			Radchem s	ample(s) s	creened (<5	00 cpm):	Y N	NA			Of the last	oles re DEX	UPS		Courier 1	ace Courie		Cooler 1 Therm Cor: Cooler 1 Corrected Comments:	Temp: 4.2 oc
Relingaished by/Company: (Signat	(undel	/ Date	/Time: /2	211.60	Received b	Company	(Signati		Phe	9 10		Date/1	Time:	11.04	MTJL Table #:	LAB USE O	NLY		
Relinquished by/Company: (Signat	ture)	Date	Time:	1235	Received b	/Company	(Signati				I	Date/			Acctnum	:		Trip Blank Receive	ed: Y N NA
her	- for	_ 1	17/2	2	R.6	lemon	10	/			_	1-7		12:35	Template Prelogin:		1	HCL MeOH	
Relinquished by/Company: (Signat	ture)	Date	/Time:		Received b	//Company	: (Signati	ure)				Date/1	Time:		PM: PB:			Non Conformance(s): YES / NO	Page: of:

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	1	ISPS [	5. Packing Material:		Bubble		
2. Custody Seal on Cooler/Box Present: Yes			□No	one l	Other.		_
(If yes)Seals Intact: Yes No (leave blank		were pres		4			
3. Thermometer: 123 056 ABCDEF			6. Ice Type:   ✓ Wet □ B	Blue   None			
4. Cooler Temperature: 4.4 /4.2 Temp should be above freezing to 6°C (Initial/Corrected)	-		7. If temp. is over 6°C or under 0	)°C, was the PM r	notified?:	☐ Yes	□ No
All	discrepand	ies will be	written out in the comments section below.				
	Yes	No	Edward E. Carrier		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)		1	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, collform, LLHg, O&G, a container with a septum cap or preserved with HCl.	and any	/		
Short Hold Time Analysis (48 hours or less)? Analysis:	1		Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9 Any non-conformance to pH recommendations will be noted count form	l) on the container	<b>V</b>		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:   6.	)(	Residual Chlorine Check (SVOC 625 Pest/PCB 608)		Present	Absent	N/A
Rush TAT Requested (4 days or less):		V	Residual Chlorine Check (Total/Amenable/Free Cyanid	de)			1,
Custody Signatures Present?	<b>\</b>		Headspace Wisconsin Sulfide?				V
Containers Intact?:	1,		Headspace in VOA Vials (>6mm): See Containter Count form for details		Present	Absent	No VOA Vials Ser
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?		1= =1	/	
Extra labels on Terracore Vials? (soils only)	V		Trip Blank Custody Seals?:				· ·
COMMENTS:							



# Sample Container Count

SBS MeOH (only)

\*\* Place a RED dot on containers

t	hat	are	out	of	conf	ormance
---	-----	-----	-----	----	------	---------

		Kit																								that a	e out o	contorn	lance -
COC Line Item	WGFU	R	HE SE	VOA. VIAL HS (>6mm)	NG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1		1	9								-					IF		5.2	3							WT	1		
2			1														11		200										
3	1	4										-												- 1	United	SL			
4	1																	-											
5	1																		-							L			
6																													
7																													
8																													
9									0.0												-								
10				-		-															-								
11																	-41												
12			17-1													1				To T									

## Container Codes

	Gla	SS				Plast	tic	/ Misc
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125n	L unpreserved
DG9P	40mL TSP amber vial	BG1U		BP1N		BP4N	125m	nL HNO3 plasti
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125m	nL H2SO4 plas
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	10-		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syringe	a Kit	LL Cr+6 samp
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic			
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air F	ilter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air C	Cassettes
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terr	acore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120r	mL Coliform Na
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Sum	ıma Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziplo	oc Bag
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL		Solid
GN	General	AG3C	250mL NaOH amber glass		250mL NaOH, ZnAc plastic	NAL	OL	Non-aqueous
				_		MAD		W/ine

J	as	LIC / IVIISC.	
	BP4U	125mL unpreserved plastic	
	BP4N	125mL HNO3 plastic	
		105 1 100001 1 1	

Syringe Kit LL Cr+6 sampling kit

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

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





January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







# **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306617001	A50sed	Solid	01/06/22 14:00	01/07/22 12:35
50306617002	A51sed	Solid	01/06/22 14:15	01/07/22 12:35
50306617003	DUP2	Solid	01/06/22 08:00	01/07/22 12:35
50306617004	A52sed	Solid	01/06/22 14:30	01/07/22 12:35
50306617005	SW-2	Water	01/06/22 14:45	01/07/22 12:35
50306617006	DUP3	Water	01/06/22 08:00	01/07/22 12:35



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306617001	A50sed	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306617002	A51sed	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306617003	DUP2	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306617004	A52sed	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306617005	SW-2	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 5030/8260	SLB	75	PASI-I
50306617006	DUP3	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 5030/8260	SLB	75	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306617001	A50sed					
EPA 6010	Arsenic	4.4	mg/kg	1.2	01/13/22 11:00	
EPA 6010	Barium	71.7	mg/kg	1.2	01/13/22 11:00	
EPA 6010	Chromium	12.9	mg/kg	1.2	01/13/22 11:00	
EPA 6010	Lead	83.8	mg/kg	1.2	01/13/22 11:00	
EPA 6010	Lithium	11.6	mg/kg	6.2	01/13/22 11:00	N2
SM 2540G	Percent Moisture	28.0	%	0.10	01/08/22 08:54	N2
50306617002	A51sed					
EPA 6010	Arsenic	5.0	mg/kg	1.5	01/13/22 11:02	
EPA 6010	Barium	91.8	mg/kg	1.5	01/13/22 11:02	
EPA 6010	Chromium	14.6	mg/kg	1.5	01/13/22 11:02	
EPA 6010	Lead	53.8	mg/kg	1.5	01/13/22 11:02	
EPA 6010	Lithium	9.3	mg/kg	7.3	01/13/22 11:02	N2
SM 2540G	Percent Moisture	39.7	%	0.10	01/08/22 08:54	N2
50306617003	DUP2					
EPA 6010	Arsenic	5.4	mg/kg	1.9	01/13/22 11:04	
EPA 6010	Barium	121	mg/kg	1.9	01/13/22 11:04	
EPA 6010	Chromium	18.0	mg/kg	1.9	01/13/22 11:04	
EPA 6010	Lead	61.8	mg/kg	1.9	01/13/22 11:04	
EPA 6010	Lithium	12.1	mg/kg	9.4	01/13/22 11:04	N2
SM 2540G	Percent Moisture	50.4	%	0.10	01/08/22 08:54	N2
50306617004	A52sed					
EPA 6010	Arsenic	5.4	mg/kg	1.9	01/13/22 11:07	
EPA 6010	Barium	109	mg/kg	1.9	01/13/22 11:07	
EPA 6010	Chromium	18.0	mg/kg	1.9	01/13/22 11:07	
EPA 6010	Lead	50.6	mg/kg	1.9	01/13/22 11:07	
EPA 6010	Lithium	14.3	mg/kg	9.3	01/13/22 11:07	N2
SM 2540G	Percent Moisture	54.1	%	0.10	01/08/22 08:55	N2
50306617005	SW-2					
EPA 6010	Barium	120	ug/L	10.0	01/11/22 11:34	
50306617006	DUP3					
EPA 6010	Barium	116	ug/L	10.0	01/11/22 11:36	
			-			



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Lab ID: 50306617001 Sample: A50sed Collected: 01/06/22 14:00 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. Units **Parameters** Results Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis 4.4 1.2 01/11/22 10:22 01/13/22 11:00 7440-38-2 Arsenic mg/kg 1 **Barium** 71.7 mg/kg 1.2 01/11/22 10:22 01/13/22 11:00 7440-39-3 Cadmium ND mg/kg 0.62 01/11/22 10:22 01/13/22 11:00 7440-43-9 01/11/22 10:22 01/13/22 11:00 7440-47-3 Chromium 12.9 mg/kg 1.2 01/11/22 10:22 01/13/22 11:00 7439-92-1 Lead 83.8 mg/kg 1.2 1 Lithium 11.6 mg/kg 6.2 01/11/22 10:22 01/13/22 11:00 7439-93-2 N2 1 Selenium ND 1.2 01/11/22 10:22 01/13/22 11:00 7782-49-2 mg/kg 1 Silver NΠ 0.62 01/11/22 10:22 01/13/22 11:00 7440-22-4 mg/kg 1 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.29 01/11/22 11:23 01/13/22 08:48 7439-97-6 Mercury mg/kg 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND ug/kg 116 1 01/10/22 23:49 67-64-1 Acrolein ND ug/kg 116 1 01/10/22 23:49 107-02-8 ND Acrylonitrile ug/kg 116 01/10/22 23:49 107-13-1 1 ND 5.8 Benzene ug/kg 1 01/10/22 23:49 71-43-2 ND 5.8 Bromobenzene 01/10/22 23:49 108-86-1 ug/kg 1 ND 5.8 Bromochloromethane ug/kg 1 01/10/22 23:49 74-97-5 Bromodichloromethane ND ug/kg 5.8 1 01/10/22 23:49 75-27-4 Bromoform ND ug/kg 5.8 01/10/22 23:49 75-25-2 1 ND 5.8 01/10/22 23:49 74-83-9 Bromomethane ug/kg 1 2-Butanone (MEK) ND ug/kg 28.9 1 01/10/22 23:49 78-93-3 ug/kg n-Butylbenzene ND 5.8 1 01/10/22 23:49 104-51-8 ug/kg sec-Butylbenzene ND 5.8 01/10/22 23:49 135-98-8 1 ug/kg tert-Butylbenzene ND 5.8 01/10/22 23:49 98-06-6 1 Carbon disulfide ND 11.6 01/10/22 23:49 75-15-0 ug/kg 1 01/10/22 23:49 56-23-5 Carbon tetrachloride ND ug/kg 5.8 1 Chlorobenzene ND ug/kg 5.8 1 01/10/22 23:49 108-90-7 Chloroethane ND ug/kg 5.8 1 01/10/22 23:49 75-00-3 Chloroform ND ug/kg 5.8 1 01/10/22 23:49 67-66-3 Chloromethane ND 5.8 01/10/22 23:49 74-87-3 ug/kg 1 2-Chlorotoluene ND ug/kg 5.8 01/10/22 23:49 95-49-8 5.8 4-Chlorotoluene ND ug/kg 1 01/10/22 23:49 106-43-4 Dibromochloromethane ND ug/kg 5.8 01/10/22 23:49 124-48-1 1 1,2-Dibromoethane (EDB) ND 5.8 01/10/22 23:49 106-93-4 ug/kg 1 ND 5.8 Dibromomethane 01/10/22 23:49 74-95-3 ug/kg 1 1,2-Dichlorobenzene ND 5.8 01/10/22 23:49 95-50-1 ug/kg 1 ND 5.8 1,3-Dichlorobenzene 01/10/22 23:49 541-73-1 ug/kg 1 1,4-Dichlorobenzene ND 5.8 01/10/22 23:49 106-46-7 ug/kg 1 trans-1,4-Dichloro-2-butene ND ug/kg 116 1 01/10/22 23:49 110-57-6 Dichlorodifluoromethane ND ug/kg 5.8 01/10/22 23:49 75-71-8 1,1-Dichloroethane ND 5.8 01/10/22 23:49 75-34-3 ug/kg



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A50sed Lab ID: 50306617001 Collected: 01/06/22 14:00 Received: 01/07/22 12:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	0			-		
	Pace Analytica	l Services - In	ndianapolis					
1,2-Dichloroethane	ND	ug/kg	5.8	1		01/10/22 23:49	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.8	1		01/10/22 23:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.8	1		01/10/22 23:49	156-59-2	
rans-1,2-Dichloroethene	ND	ug/kg	5.8	1		01/10/22 23:49		
,2-Dichloropropane	ND	ug/kg	5.8	1		01/10/22 23:49		
,3-Dichloropropane	ND	ug/kg	5.8	1		01/10/22 23:49		
2,2-Dichloropropane	ND	ug/kg	5.8	1		01/10/22 23:49		
,1-Dichloropropene	ND	ug/kg	5.8	1		01/10/22 23:49		
is-1,3-Dichloropropene	ND	ug/kg	5.8	1		01/10/22 23:49		
ans-1,3-Dichloropropene	ND	ug/kg ug/kg	5.8	1		01/10/22 23:49		
thylbenzene	ND	ug/kg	5.8	1		01/10/22 23:49		
Ethyl methacrylate	ND		116	1		01/10/22 23:49		
•	ND ND	ug/kg	5.8	1		01/10/22 23:49		
lexachloro-1,3-butadiene		ug/kg				01/10/22 23:49		
-Hexane	ND	ug/kg	5.8	1				
-Hexanone	ND	ug/kg	116	1		01/10/22 23:49		
odomethane	ND	ug/kg	116	1		01/10/22 23:49		
sopropylbenzene (Cumene)	ND	ug/kg	5.8	1		01/10/22 23:49		
-Isopropyltoluene	ND	ug/kg	5.8	1		01/10/22 23:49		
lethylene Chloride	ND	ug/kg	23.2	1		01/10/22 23:49		
-Methylnaphthalene	ND	ug/kg	11.6	1		01/10/22 23:49		
-Methylnaphthalene	ND	ug/kg	11.6	1		01/10/22 23:49		
-Methyl-2-pentanone (MIBK)	ND	ug/kg	28.9	1		01/10/22 23:49	108-10-1	
lethyl-tert-butyl ether	ND	ug/kg	5.8	1		01/10/22 23:49	1634-04-4	
aphthalene	ND	ug/kg	5.8	1		01/10/22 23:49	91-20-3	
-Propylbenzene	ND	ug/kg	5.8	1		01/10/22 23:49	103-65-1	
ityrene	ND	ug/kg	5.8	1		01/10/22 23:49	100-42-5	
,1,1,2-Tetrachloroethane	ND	ug/kg	5.8	1		01/10/22 23:49	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/kg	5.8	1		01/10/22 23:49	79-34-5	
etrachloroethene	ND	ug/kg	5.8	1		01/10/22 23:49	127-18-4	
oluene	ND	ug/kg	5.8	1		01/10/22 23:49	108-88-3	
,2,3-Trichlorobenzene	ND	ug/kg	5.8	1		01/10/22 23:49	87-61-6	
,2,4-Trichlorobenzene	ND	ug/kg	5.8	1		01/10/22 23:49	120-82-1	
,1,1-Trichloroethane	ND	ug/kg	5.8	1		01/10/22 23:49	71-55-6	
,1,2-Trichloroethane	ND	ug/kg	5.8	1		01/10/22 23:49		
richloroethene	ND	ug/kg	5.8	1		01/10/22 23:49		
richlorofluoromethane	ND	ug/kg	5.8	1		01/10/22 23:49		
,2,3-Trichloropropane	ND	ug/kg	5.8	1		01/10/22 23:49		
,2,4-Trimethylbenzene	ND	ug/kg	5.8	1		01/10/22 23:49		
,3,5-Trimethylbenzene	ND	ug/kg ug/kg	5.8	1		01/10/22 23:49		
inyl acetate	ND ND	ug/kg ug/kg	116	1		01/10/22 23:49		
•								
/inyl chloride	ND	ug/kg	5.8	1		01/10/22 23:49		
(ylene (Total)	ND	ug/kg	11.6	1		01/10/22 23:49	1330-20-7	
Gurrogates bibromofluoromethane (S)	97	%.	73-132	1		01/10/22 23:49	1868-52 7	
oluene-d8 (S)	107	%. %.	73-132 66-148	1		01/10/22 23:49		



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A50sed	Lab ID: 5030	06617001	Collected: 01/06/2	2 14:00	Received: 0	1/07/22 12:35 N	latrix: Solid	
Results reported on a "dry weig	ht" basis and are adj	usted for pe	rcent moisture, sa	mple si	ze and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
	Pace Analytica	l Services - I	ndianapolis					
Surrogates								
4-Bromofluorobenzene (S)	56	%.	40-149	1		01/10/22 23:49	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	)G					
	Pace Analytica	l Services - II	ndianapolis					
Percent Moisture	28.0	%	0.10	1		01/08/22 08:54		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Lab ID: 50306617002 Sample: A51sed Collected: 01/06/22 14:15 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis 5.0 01/11/22 10:22 01/13/22 11:02 7440-38-2 Arsenic mg/kg 1.5 1 **Barium** 91.8 mg/kg 1.5 01/11/22 10:22 01/13/22 11:02 7440-39-3 1 Cadmium ND mg/kg 0.73 01/11/22 10:22 01/13/22 11:02 7440-43-9 01/11/22 10:22 01/13/22 11:02 Chromium 14.6 mg/kg 1.5 7440-47-3 01/11/22 10:22 01/13/22 11:02 7439-92-1 Lead 53.8 mg/kg 1.5 1 Lithium 9.3 mg/kg 7.3 01/11/22 10:22 01/13/22 11:02 7439-93-2 N2 1 Selenium ND 1.5 01/11/22 10:22 01/13/22 11:02 7782-49-2 mg/kg 1 Silver NΠ 0.73 01/11/22 10:22 01/13/22 11:02 7440-22-4 mg/kg 1 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.35 01/11/22 11:23 01/13/22 08:51 7439-97-6 Mercury mg/kg 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND ug/kg 170 1 01/11/22 00:14 67-64-1 Acrolein ND ug/kg 170 1 01/11/22 00:14 107-02-8 ND Acrylonitrile ug/kg 170 01/11/22 00:14 107-13-1 1 ND Benzene ug/kg 8.5 1 01/11/22 00:14 71-43-2 ND 8.5 Bromobenzene 01/11/22 00:14 108-86-1 ug/kg 1 ND 8.5 Bromochloromethane ug/kg 1 01/11/22 00:14 74-97-5 Bromodichloromethane ND ug/kg 8.5 1 01/11/22 00:14 75-27-4 Bromoform ND ug/kg 8.5 01/11/22 00:14 75-25-2 1 ND 8.5 01/11/22 00:14 74-83-9 Bromomethane ug/kg 1 2-Butanone (MEK) ND ug/kg 42.5 1 01/11/22 00:14 78-93-3 ug/kg n-Butylbenzene ND 8.5 1 01/11/22 00:14 104-51-8 ug/kg sec-Butylbenzene ND 8.5 01/11/22 00:14 135-98-8 1 ug/kg 8.5 tert-Butylbenzene ND 01/11/22 00:14 98-06-6 1 Carbon disulfide ND 17.0 01/11/22 00:14 75-15-0 ug/kg 1 01/11/22 00:14 56-23-5 Carbon tetrachloride ND ug/kg 8.5 1 Chlorobenzene ND ug/kg 8.5 1 01/11/22 00:14 108-90-7 Chloroethane ND ug/kg 8.5 1 01/11/22 00:14 75-00-3 Chloroform ND ug/kg 8.5 1 01/11/22 00:14 67-66-3 Chloromethane ND 8.5 01/11/22 00:14 74-87-3 ug/kg 1 2-Chlorotoluene ND ug/kg 8.5 01/11/22 00:14 95-49-8 4-Chlorotoluene ND ug/kg 8.5 1 01/11/22 00:14 106-43-4 Dibromochloromethane ND ug/kg 8.5 01/11/22 00:14 124-48-1 1 1,2-Dibromoethane (EDB) ND 8.5 01/11/22 00:14 106-93-4 ug/kg 1 01/11/22 00:14 74-95-3 ND 8.5 Dibromomethane ug/kg 1 1,2-Dichlorobenzene ND 8.5 01/11/22 00:14 95-50-1 ug/kg 1 ND 8.5 1,3-Dichlorobenzene 01/11/22 00:14 541-73-1 ug/kg 1 1,4-Dichlorobenzene ND 8.5 01/11/22 00:14 106-46-7 ug/kg 1 trans-1,4-Dichloro-2-butene ND ug/kg 170 1 01/11/22 00:14 110-57-6 Dichlorodifluoromethane ND ug/kg 8.5 1 01/11/22 00:14 75-71-8 1,1-Dichloroethane ND 8.5 01/11/22 00:14 75-34-3 ug/kg



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A51sed Lab ID: 50306617002 Collected: 01/06/22 14:15 Received: 01/07/22 12:35 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
	Pace Analytica	l Services - Ir	ndianapolis					
1,2-Dichloroethane	ND	ug/kg	8.5	1		01/11/22 00:14	107-06-2	
1,1-Dichloroethene	ND	ug/kg	8.5	1		01/11/22 00:14		
cis-1,2-Dichloroethene	ND	ug/kg	8.5	1		01/11/22 00:14		
trans-1,2-Dichloroethene	ND	ug/kg	8.5	1		01/11/22 00:14		
1,2-Dichloropropane	ND	ug/kg	8.5	1		01/11/22 00:14		
1,3-Dichloropropane	ND	ug/kg	8.5	1		01/11/22 00:14		
2,2-Dichloropropane	ND	ug/kg	8.5	1		01/11/22 00:14		
,1-Dichloropropene	ND	ug/kg	8.5	1		01/11/22 00:14		
sis-1,3-Dichloropropene	ND	ug/kg ug/kg	8.5	1		01/11/22 00:14		
rans-1,3-Dichloropropene	ND ND	ug/kg ug/kg	8.5	1		01/11/22 00:14		
Ethylbenzene	ND ND	ug/kg ug/kg	8.5	1		01/11/22 00:14		
•	ND ND		170	1		01/11/22 00:14		
Ethyl methacrylate		ug/kg						
lexachloro-1,3-butadiene	ND	ug/kg	8.5	1		01/11/22 00:14		
n-Hexane	ND	ug/kg	8.5	1		01/11/22 00:14		
2-Hexanone	ND	ug/kg	170	1		01/11/22 00:14		
odomethane	ND	ug/kg	170	1		01/11/22 00:14		
sopropylbenzene (Cumene)	ND	ug/kg	8.5	1		01/11/22 00:14		
-Isopropyltoluene	ND	ug/kg	8.5	1		01/11/22 00:14		
Methylene Chloride	ND	ug/kg	34.0	1		01/11/22 00:14		
-Methylnaphthalene	ND	ug/kg	17.0	1		01/11/22 00:14		
-Methylnaphthalene	ND	ug/kg	17.0	1		01/11/22 00:14	91-57-6	
-Methyl-2-pentanone (MIBK)	ND	ug/kg	42.5	1		01/11/22 00:14	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	8.5	1		01/11/22 00:14	1634-04-4	
laphthalene	ND	ug/kg	8.5	1		01/11/22 00:14	91-20-3	
-Propylbenzene	ND	ug/kg	8.5	1		01/11/22 00:14	103-65-1	
Styrene	ND	ug/kg	8.5	1		01/11/22 00:14	100-42-5	
,1,1,2-Tetrachloroethane	ND	ug/kg	8.5	1		01/11/22 00:14	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/kg	8.5	1		01/11/22 00:14	79-34-5	
etrachloroethene	ND	ug/kg	8.5	1		01/11/22 00:14	127-18-4	
oluene	ND	ug/kg	8.5	1		01/11/22 00:14	108-88-3	
,2,3-Trichlorobenzene	ND	ug/kg	8.5	1		01/11/22 00:14	87-61-6	
,2,4-Trichlorobenzene	ND	ug/kg	8.5	1		01/11/22 00:14	120-82-1	
,1,1-Trichloroethane	ND	ug/kg	8.5	1		01/11/22 00:14	71-55-6	
,1,2-Trichloroethane	ND	ug/kg	8.5	1		01/11/22 00:14		
richloroethene	ND	ug/kg	8.5	1		01/11/22 00:14		
richlorofluoromethane	ND	ug/kg	8.5	1		01/11/22 00:14		
,2,3-Trichloropropane	ND	ug/kg	8.5	1		01/11/22 00:14		
,2,4-Trimethylbenzene	ND	ug/kg	8.5	1		01/11/22 00:14		
,3,5-Trimethylbenzene	ND	ug/kg	8.5	1		01/11/22 00:14		
inyl acetate	ND ND	ug/kg ug/kg	170	1		01/11/22 00:14		
'inyl chloride	ND	ug/kg ug/kg	8.5	1		01/11/22 00:14		
(ylene (Total)	ND ND	ug/kg ug/kg	17.0	1		01/11/22 00:14		
Surrogates	טאו	ug/kg	17.0			01/11/22 00.14	1000-20-1	
Dibromofluoromethane (S)	104	%.	73-132	1		01/11/22 00:14	1868-53-7	
oluene-d8 (S)	108	%.	66-148	1		01/11/22 00:14		



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A51sed	Lab ID: 5030	06617002	Collected: 01/06/2	2 14:15	Received: 0	1/07/22 12:35 M	latrix: Solid	
Results reported on a "dry weig	ht" basis and are adj	usted for pe	rcent moisture, sa	mple siz	ze and any dilu	ıtions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
	Pace Analytica	l Services - I	ndianapolis					
Surrogates								
4-Bromofluorobenzene (S)	80	%.	40-149	1		01/11/22 00:14	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	)G					
	Pace Analytica	l Services - II	ndianapolis					
Percent Moisture	39.7	%	0.10	1		01/08/22 08:54		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: DUP2	Lab ID: 503	06617003	Collected: 01/06/2	2 08:00	Received: 01	1/07/22 12:35	Matrix: Solid	
Results reported on a "dry weigi	ht" basis and are adj	iusted for p	ercent moisture, sa	mple si	ze and any dilu	tions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Moth	and: EDA 60	010 Preparation Meth	od: ED/	\ 2050			
60 TO MET ICP	•		•	iou. Lr	3030			
	Pace Analytica	ıı Services -	indianapolis					
Arsenic	5.4	mg/kg	1.9	1	01/11/22 10:22	01/13/22 11:04	1 7440-38-2	
Barium	121	mg/kg	1.9	1	01/11/22 10:22	01/13/22 11:04	7440-39-3	
Cadmium	ND	mg/kg	0.94	1	01/11/22 10:22	01/13/22 11:04	1 7440-43-9	
Chromium	18.0	mg/kg	1.9	1	01/11/22 10:22	01/13/22 11:04	1 7440-47-3	
Lead	61.8	mg/kg	1.9	1	01/11/22 10:22	01/13/22 11:04	1 7439-92-1	
Lithium	12.1	mg/kg	9.4	1	01/11/22 10:22	01/13/22 11:04	1 7439-93-2	N2
Selenium	ND	mg/kg	1.9	1	01/11/22 10:22	01/13/22 11:04	7782-49-2	
Silver	ND	mg/kg	0.94	1		01/13/22 11:04		
7.474 Manarini	Analytical Moth		171 Droporotion Moth	ad. ED	\ 7474			
7471 Mercury	Pace Analytica		171 Preparation Meth	00. EF	14/1			
Moroury	ND		0.43	1	01/11/22 11:22	01/13/22 08:53	2 7/20 07 6	
Mercury		mg/kg		1	01/11/22 11.23	01/13/22 06.53	5 1439-91-0	
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 82	260					
	Pace Analytica	I Services -	Indianapolis					
Acetone	ND	ug/kg	185	1		01/11/22 00:38	8 67-64-1	
Acrolein	ND ND		185	1		01/11/22 00:38		
		ug/kg				01/11/22 00:38		
Acrylonitrile	ND	ug/kg	185	1				
Benzene	ND	ug/kg	9.3	1		01/11/22 00:38		
Bromobenzene	ND	ug/kg	9.3	1		01/11/22 00:38		
Bromochloromethane	ND	ug/kg	9.3	1		01/11/22 00:38		
Bromodichloromethane	ND	ug/kg	9.3	1		01/11/22 00:38		
Bromoform	ND	ug/kg	9.3	1		01/11/22 00:38		
Bromomethane	ND	ug/kg	9.3	1		01/11/22 00:38		
2-Butanone (MEK)	ND	ug/kg	46.3	1		01/11/22 00:38		
n-Butylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38		
sec-Butylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38	3 135-98-8	
tert-Butylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38	3 98-06-6	
Carbon disulfide	ND	ug/kg	18.5	1		01/11/22 00:38	3 75-15-0	
Carbon tetrachloride	ND	ug/kg	9.3	1		01/11/22 00:38	3 56-23-5	
Chlorobenzene	ND	ug/kg	9.3	1		01/11/22 00:38	3 108-90-7	
Chloroethane	ND	ug/kg	9.3	1		01/11/22 00:38	3 75-00-3	
Chloroform	ND	ug/kg	9.3	1		01/11/22 00:38	3 67-66-3	
Chloromethane	ND	ug/kg	9.3	1		01/11/22 00:38		
2-Chlorotoluene	ND	ug/kg	9.3	1		01/11/22 00:38		
4-Chlorotoluene	ND	ug/kg	9.3	1		01/11/22 00:38		
Dibromochloromethane	ND	ug/kg	9.3	1		01/11/22 00:38		
1,2-Dibromoethane (EDB)	ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
Dibromomethane	ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
1,2-Dichlorobenzene	ND ND		9.3	1		01/11/22 00:38		
		ug/kg				01/11/22 00:38		
1,3-Dichlorobenzene	ND	ug/kg	9.3	1				
1,4-Dichlorobenzene	ND	ug/kg	9.3	1		01/11/22 00:38		
trans-1,4-Dichloro-2-butene	ND	ug/kg	185	1		01/11/22 00:38		
Dichlorodifluoromethane	ND	ug/kg	9.3	1		01/11/22 00:38		
1,1-Dichloroethane	ND	ug/kg	9.3	1		01/11/22 00:38	3 75-34-3	



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: DUP2 Lab ID: 50306617003 Collected: 01/06/22 08:00 Received: 01/07/22 12:35 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Metl	nod: EPA 826	0		•	•		
	Pace Analytica							
1,2-Dichloroethane	ND	ug/kg	9.3	1		01/11/22 00:38	107-06-2	
1,1-Dichloroethene	ND	ug/kg	9.3	1		01/11/22 00:38		
cis-1,2-Dichloroethene	ND	ug/kg	9.3	1		01/11/22 00:38		
rans-1,2-Dichloroethene	ND	ug/kg	9.3	1		01/11/22 00:38		
,2-Dichloropropane	ND	ug/kg	9.3	1		01/11/22 00:38		
I,3-Dichloropropane	ND	ug/kg	9.3	1		01/11/22 00:38		
2,2-Dichloropropane	ND	ug/kg	9.3	1		01/11/22 00:38		
,1-Dichloropropene	ND	ug/kg	9.3	1		01/11/22 00:38		
is-1,3-Dichloropropene	ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
ans-1,3-Dichloropropene	ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
ithylbenzene	ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
thyl methacrylate	ND	ug/kg ug/kg	185	1		01/11/22 00:38		
lexachloro-1,3-butadiene	ND ND	ug/kg ug/kg	9.3	1		01/11/22 00:38		
i-Hexane	ND ND		9.3	1		01/11/22 00:38		
-Hexanne	ND ND	ug/kg	9.3 185	1		01/11/22 00:38		
		ug/kg		1				
odomethane	ND	ug/kg	185 9.3	1		01/11/22 00:38		
sopropylbenzene (Cumene)	ND	ug/kg				01/11/22 00:38		
-Isopropyltoluene	ND	ug/kg	9.3	1		01/11/22 00:38		
Methylene Chloride	ND	ug/kg	37.0	1		01/11/22 00:38		
-Methylnaphthalene	ND	ug/kg	18.5	1		01/11/22 00:38		
-Methylnaphthalene	ND	ug/kg	18.5	1		01/11/22 00:38		
-Methyl-2-pentanone (MIBK)	ND	ug/kg	46.3	1		01/11/22 00:38		
Methyl-tert-butyl ether	ND	ug/kg	9.3	1		01/11/22 00:38		
laphthalene 	ND	ug/kg	9.3	1		01/11/22 00:38		
-Propylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38		
Styrene	ND	ug/kg	9.3	1		01/11/22 00:38		
,1,1,2-Tetrachloroethane	ND	ug/kg	9.3	1		01/11/22 00:38		
,1,2,2-Tetrachloroethane	ND	ug/kg	9.3	1		01/11/22 00:38		
etrachloroethene	ND	ug/kg	9.3	1		01/11/22 00:38		
oluene	ND	ug/kg	9.3	1		01/11/22 00:38		
,2,3-Trichlorobenzene	ND	ug/kg	9.3	1		01/11/22 00:38		
,2,4-Trichlorobenzene	ND	ug/kg	9.3	1		01/11/22 00:38	120-82-1	
,1,1-Trichloroethane	ND	ug/kg	9.3	1		01/11/22 00:38	71-55-6	
,1,2-Trichloroethane	ND	ug/kg	9.3	1		01/11/22 00:38	79-00-5	
richloroethene	ND	ug/kg	9.3	1		01/11/22 00:38	79-01-6	
richlorofluoromethane	ND	ug/kg	9.3	1		01/11/22 00:38	75-69-4	
,2,3-Trichloropropane	ND	ug/kg	9.3	1		01/11/22 00:38	96-18-4	
,2,4-Trimethylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38	95-63-6	
,3,5-Trimethylbenzene	ND	ug/kg	9.3	1		01/11/22 00:38	108-67-8	
inyl acetate	ND	ug/kg	185	1		01/11/22 00:38	108-05-4	
inyl chloride	ND	ug/kg	9.3	1		01/11/22 00:38	75-01-4	
(ylene (Total)	ND	ug/kg	18.5	1		01/11/22 00:38	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%.	73-132	1		01/11/22 00:38	1868-53-7	
oluene-d8 (S)	109	%.	66-148	1		01/11/22 00:38	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: DUP2	Lab ID: 5030	06617003	Collected: 01/06/2	2 08:00	Received: 0	1/07/22 12:35 N	latrix: Solid	
Results reported on a "dry weig	ght" basis and are adj	usted for pe	rcent moisture, sa	mple si	ze and any dilu	ıtions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
	Pace Analytica	l Services - I	ndianapolis					
Surrogates								
4-Bromofluorobenzene (S)	52	%.	40-149	1		01/11/22 00:38	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	)G					
	Pace Analytica	l Services - I	ndianapolis					
Percent Moisture	50.4	%	0.10	1		01/08/22 08:54		N2



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Lab ID: 50306617004 Sample: A52sed Collected: 01/06/22 14:30 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. Units **Parameters** Results Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis 5.4 01/11/22 10:22 01/13/22 11:07 7440-38-2 Arsenic mg/kg 1.9 1 **Barium** 109 mg/kg 1.9 01/11/22 10:22 01/13/22 11:07 7440-39-3 1 Cadmium ND mg/kg 0.93 01/11/22 10:22 01/13/22 11:07 7440-43-9 18.0 01/11/22 10:22 01/13/22 11:07 Chromium mg/kg 1.9 7440-47-3 50.6 01/11/22 10:22 01/13/22 11:07 Lead mg/kg 1.9 1 7439-92-1 Lithium 14.3 mg/kg 9.3 01/11/22 10:22 01/13/22 11:07 7439-93-2 N2 1 Selenium ND 1.9 01/11/22 10:22 01/13/22 11:07 7782-49-2 mg/kg 1 0.93 Silver NΠ 01/11/22 10:22 01/13/22 11:07 7440-22-4 mg/kg 1 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.45 01/11/22 11:23 01/13/22 08:56 7439-97-6 Mercury mg/kg 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND ug/kg 195 1 01/11/22 01:02 67-64-1 Acrolein ND ug/kg 195 1 01/11/22 01:02 107-02-8 ND 195 Acrylonitrile ug/kg 01/11/22 01:02 107-13-1 1 ND Benzene ug/kg 9.8 1 01/11/22 01:02 71-43-2 ND 9.8 Bromobenzene 01/11/22 01:02 108-86-1 ug/kg 1 ND 9.8 Bromochloromethane ug/kg 1 01/11/22 01:02 74-97-5 Bromodichloromethane ND ug/kg 9.8 1 01/11/22 01:02 75-27-4 Bromoform ND ug/kg 9.8 01/11/22 01:02 75-25-2 1 Bromomethane ND 9.8 01/11/22 01:02 74-83-9 ug/kg 1 2-Butanone (MEK) ND ug/kg 48.8 1 01/11/22 01:02 78-93-3 ug/kg n-Butylbenzene ND 9.8 1 01/11/22 01:02 104-51-8 ug/kg sec-Butylbenzene ND 9.8 01/11/22 01:02 135-98-8 1 ug/kg tert-Butylbenzene ND 9.8 01/11/22 01:02 98-06-6 1 Carbon disulfide ND 19.5 01/11/22 01:02 75-15-0 ug/kg 1 01/11/22 01:02 56-23-5 Carbon tetrachloride ND ug/kg 9.8 1 Chlorobenzene ND ug/kg 9.8 1 01/11/22 01:02 108-90-7 Chloroethane ND ug/kg 9.8 1 01/11/22 01:02 75-00-3 Chloroform ND ug/kg 9.8 1 01/11/22 01:02 67-66-3 Chloromethane ND 9.8 01/11/22 01:02 74-87-3 ug/kg 1 2-Chlorotoluene ND ug/kg 9.8 01/11/22 01:02 95-49-8 01/11/22 01:02 106-43-4 9.8 4-Chlorotoluene ND ug/kg 1 Dibromochloromethane ND ug/kg 9.8 01/11/22 01:02 124-48-1 1 1,2-Dibromoethane (EDB) ND 9.8 01/11/22 01:02 106-93-4 ug/kg 1 ND 9.8 01/11/22 01:02 74-95-3 Dibromomethane ug/kg 1 1,2-Dichlorobenzene ND 9.8 01/11/22 01:02 95-50-1 ug/kg 1 ND 98 1,3-Dichlorobenzene 01/11/22 01:02 541-73-1 ug/kg 1 1,4-Dichlorobenzene ND 9.8 01/11/22 01:02 106-46-7 ug/kg 1 trans-1,4-Dichloro-2-butene ND ug/kg 195 1 01/11/22 01:02 110-57-6 Dichlorodifluoromethane ND ug/kg 9.8 1 01/11/22 01:02 75-71-8 1,1-Dichloroethane ND 9.8 01/11/22 01:02 75-34-3 ug/kg



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A52sed Lab ID: 50306617004 Collected: 01/06/22 14:30 Received: 01/07/22 12:35 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	0					
	Pace Analytica	l Services - Ir	ndianapolis					
1,2-Dichloroethane	ND	ug/kg	9.8	1		01/11/22 01:02	107-06-2	
1,1-Dichloroethene	ND	ug/kg	9.8	1		01/11/22 01:02		
cis-1,2-Dichloroethene	ND	ug/kg	9.8	1		01/11/22 01:02		
trans-1,2-Dichloroethene	ND	ug/kg	9.8	1		01/11/22 01:02		
1,2-Dichloropropane	ND	ug/kg	9.8	1		01/11/22 01:02		
1,3-Dichloropropane	ND	ug/kg	9.8	1		01/11/22 01:02		
2,2-Dichloropropane	ND	ug/kg	9.8	1		01/11/22 01:02		
1,1-Dichloropropene	ND	ug/kg	9.8	1		01/11/22 01:02		
cis-1,3-Dichloropropene	ND	ug/kg	9.8	1		01/11/22 01:02		
rans-1,3-Dichloropropene	ND ND	ug/kg ug/kg	9.8	1		01/11/22 01:02		
Ethylbenzene	ND ND	ug/kg	9.8	1		01/11/22 01:02		
Ethyl methacrylate	ND ND	ug/kg ug/kg	195	1		01/11/22 01:02		
	ND ND		9.8	1		01/11/22 01:02		
Hexachloro-1,3-butadiene		ug/kg		1		01/11/22 01:02		
n-Hexane	ND	ug/kg	9.8	1				
2-Hexanone	ND	ug/kg	195			01/11/22 01:02		
odomethane	ND	ug/kg	195	1		01/11/22 01:02		
sopropylbenzene (Cumene)	ND	ug/kg	9.8	1		01/11/22 01:02		
-Isopropyltoluene	ND	ug/kg	9.8	1		01/11/22 01:02		
Methylene Chloride	ND	ug/kg	39.0	1		01/11/22 01:02		
-Methylnaphthalene	ND	ug/kg	19.5	1		01/11/22 01:02		
2-Methylnaphthalene	ND	ug/kg	19.5	1		01/11/22 01:02		
-Methyl-2-pentanone (MIBK)	ND	ug/kg	48.8	1		01/11/22 01:02		
Methyl-tert-butyl ether	ND	ug/kg	9.8	1		01/11/22 01:02		
Naphthalene	ND	ug/kg	9.8	1		01/11/22 01:02		
n-Propylbenzene	ND	ug/kg	9.8	1		01/11/22 01:02		
Styrene	ND	ug/kg	9.8	1		01/11/22 01:02		
,1,1,2-Tetrachloroethane	ND	ug/kg	9.8	1		01/11/22 01:02	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/kg	9.8	1		01/11/22 01:02	79-34-5	
Tetrachloroethene	ND	ug/kg	9.8	1		01/11/22 01:02	127-18-4	
Toluene	ND	ug/kg	9.8	1		01/11/22 01:02	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	9.8	1		01/11/22 01:02	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	9.8	1		01/11/22 01:02	120-82-1	
,1,1-Trichloroethane	ND	ug/kg	9.8	1		01/11/22 01:02	71-55-6	
,1,2-Trichloroethane	ND	ug/kg	9.8	1		01/11/22 01:02	79-00-5	
Trichloroethene Trichloroethene	ND	ug/kg	9.8	1		01/11/22 01:02	79-01-6	
richlorofluoromethane	ND	ug/kg	9.8	1		01/11/22 01:02	75-69-4	
,2,3-Trichloropropane	ND	ug/kg	9.8	1		01/11/22 01:02	96-18-4	
,2,4-Trimethylbenzene	ND	ug/kg	9.8	1		01/11/22 01:02	95-63-6	
,3,5-Trimethylbenzene	ND	ug/kg	9.8	1		01/11/22 01:02	108-67-8	
/inyl acetate	ND	ug/kg	195	1		01/11/22 01:02	108-05-4	
/inyl chloride	ND	ug/kg	9.8	1		01/11/22 01:02		
(ylene (Total)	ND	ug/kg	19.5	1		01/11/22 01:02		
Surrogates		39						
Dibromofluoromethane (S)	99	%.	73-132	1		01/11/22 01:02	1868-53-7	
Toluene-d8 (S)	102	%.	66-148	1		01/11/22 01:02	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: A52sed Lab ID: 50306617004 Collected: 01/06/22 14:30 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Surrogates 80 40-149 01/11/22 01:02 460-00-4 4-Bromofluorobenzene (S) %. 1 Analytical Method: SM 2540G **Percent Moisture** Pace Analytical Services - Indianapolis Percent Moisture 54.1 0.10 01/08/22 08:55 N2 1



Project: M20032 Muncie Phase II

Date: 01/17/2022 01:53 PM

Sample: SW-2	Lab ID: 503	06617005	Collected: 01/06/2	2 14:45	Received: 01	1/07/22 12:35	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Metl	nod: EPA 60	O10 Preparation Meth	nod: EPA	\ 3010			
	Pace Analytica							
Arsenic	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 11:34	7440-38-2	
Barium	120	ug/L	10.0	1		01/11/22 11:34		
Cadmium	ND	ug/L	2.0	1		01/11/22 11:34		
Chromium	ND	ug/L	10.0	1		01/11/22 11:34		
_ead	ND	ug/L	10.0	1		01/11/22 11:34		
Lithium	ND ND	ug/L	20.0	1		01/11/22 11:34		
Selenium	ND ND	ug/L	10.0	1		01/11/22 11:34		
Silver	ND ND	ug/L	10.0	1		01/11/22 11:34		
		•				01/11/22 11.54	7440-22-4	
7470 Mercury			170 Preparation Meth	nod: EPA	A 7470			
	Pace Analytica	ıl Services -	Indianapolis					
Mercury	ND	ug/L	2.0	1	01/14/22 06:55	01/14/22 12:15	7439-97-6	
3260 MSV Indiana	Analytical Meth	nod: EPA 50	030/8260					
	Pace Analytica	l Services -	Indianapolis					
Acetone	ND	ug/L	100	1		01/10/22 13:05	5 67-64-1	
Acrolein	ND	ug/L	50.0	1		01/10/22 13:05	5 107-02-8	
Acrylonitrile	ND	ug/L	100	1		01/10/22 13:05	5 107-13-1	
Benzene	ND	ug/L	5.0	1		01/10/22 13:05		
Bromobenzene	ND	ug/L	5.0	1		01/10/22 13:05		
Bromochloromethane	ND	ug/L	5.0	1		01/10/22 13:05		
Bromodichloromethane	ND	ug/L	5.0	1		01/10/22 13:05		
Bromoform	ND	ug/L	5.0	1		01/10/22 13:05		
Bromomethane	ND	ug/L	5.0	1		01/10/22 13:05		
2-Butanone (MEK)	ND	ug/L	25.0	1		01/10/22 13:05		
n-Butylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
sec-Butylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
ert-Butylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
Carbon disulfide	ND	ug/L	10.0	1		01/10/22 13:05		
Carbon tetrachloride	ND	ug/L	5.0	1		01/10/22 13:05		
Chlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05		
Chloroethane	ND	ug/L	5.0	1		01/10/22 13:05		
Chloroform	ND	ug/L	5.0	1		01/10/22 13:05		
Chloromethane	ND	ug/L	5.0	1		01/10/22 13:05		
:-Chlorotoluene	ND ND	ug/L ug/L		•		01/10/22 13:05		
Chlorotoluene	ND ND	•	5.0 5.0	1 1		01/10/22 13:05		
Dibromochloromethane	ND ND	ug/L	5.0			01/10/22 13:05		
		ug/L		1				
,2-Dibromoethane (EDB)	ND ND	ug/L	5.0	1		01/10/22 13:05		
Dibromomethane	ND	ug/L	5.0	1		01/10/22 13:05		
,2-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05		
,3-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05		
,4-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05		
rans-1,4-Dichloro-2-butene	ND	ug/L	100	1		01/10/22 13:05		
Dichlorodifluoromethane	ND	ug/L	5.0	1		01/10/22 13:05		
1,1-Dichloroethane	ND	ug/L	5.0	1		01/10/22 13:05	5 75-34-3	



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Sample: SW-2	Lab ID: 503	06617005	Collected: 01/06/2	22 14:45	Received:	01/07/22 12:35	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Indiana	Analytical Meth	nod: EPA 50	030/8260					
	Pace Analytica	l Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	5.0	1		01/10/22 13:05	5 107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:05		
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:05	5 156-59-2	
rans-1,2-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:05	5 156-60-5	
,2-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:05		
,3-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:05		
2,2-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:05		
,1-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:05		
is-1,3-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:05		
rans-1,3-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:05		
Ethylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
Ethyl methacrylate	ND ND	ug/L	100	1		01/10/22 13:05		
Hexachloro-1,3-butadiene	ND ND	ug/L	5.0	1		01/10/22 13:05		
,		-		1				
-Hexane	ND	ug/L	5.0			01/10/22 13:05		
-Hexanone	ND	ug/L	25.0	1		01/10/22 13:05		
odomethane	ND	ug/L	10.0	1		01/10/22 13:05		
sopropylbenzene (Cumene)	ND	ug/L	5.0	1		01/10/22 13:05		
-Isopropyltoluene	ND	ug/L	5.0	1		01/10/22 13:05		
lethylene Chloride	ND	ug/L	5.0	1		01/10/22 13:05		
-Methylnaphthalene	ND	ug/L	10.0	1		01/10/22 13:05		
-Methylnaphthalene	ND	ug/L	10.0	1		01/10/22 13:05		
-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1		01/10/22 13:05		
lethyl-tert-butyl ether	ND	ug/L	4.0	1		01/10/22 13:05		
laphthalene	ND	ug/L	1.2	1		01/10/22 13:05	5 91-20-3	
-Propylbenzene	ND	ug/L	5.0	1		01/10/22 13:05	5 103-65-1	
Styrene	ND	ug/L	5.0	1		01/10/22 13:05	5 100-42-5	
,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		01/10/22 13:05	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		01/10/22 13:05	79-34-5	
etrachloroethene	ND	ug/L	5.0	1		01/10/22 13:05	5 127-18-4	
oluene	ND	ug/L	5.0	1		01/10/22 13:05	5 108-88-3	
,2,3-Trichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05	5 87-61-6	
,2,4-Trichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:05	5 120-82-1	
,1,1-Trichloroethane	ND	ug/L	5.0	1		01/10/22 13:05	5 71-55-6	
.1.2-Trichloroethane	ND	ug/L	5.0	1		01/10/22 13:05		
richloroethene	ND	ug/L	5.0	1		01/10/22 13:05		
richlorofluoromethane	ND	ug/L	5.0	1		01/10/22 13:05		
,2,3-Trichloropropane	ND	ug/L	5.0	1		01/10/22 13:05		
,2,4-Trimethylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
,3,5-Trimethylbenzene	ND	ug/L	5.0	1		01/10/22 13:05		
inyl acetate	ND ND	ug/L	50.0	1		01/10/22 13:05		
finyl acetate finyl chloride	ND ND		2.0			01/10/22 13:05		
-		ug/L		1 1		01/10/22 13:05		
(ylene (Total) <b>Surrogates</b>	ND	ug/L	10.0	ı		01/10/22 13:05	1330-20-7	
Dibromofluoromethane (S)	102	%.	78-120	1		01/10/22 13:05	5 1868-53-7	
		%. %.	78-120 78-117					
-Bromofluorobenzene (S) oluene-d8 (S)	104 99	%. %.	78-117 77-118	1 1		01/10/22 13:05 01/10/22 13:05		



Project: M20032 Muncie Phase II

Date: 01/17/2022 01:53 PM

Sample: DUP3	Lab ID: 503	06617006	Collected: 01/06/2	22 08:00	Received: 01	I/07/22 12:35 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Meth	nod: FPA 60	O10 Preparation Met	hod: FP	A 3010	-		
0010 ME1 101	Pace Analytica			100. 217	10010			
Arsenic	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 11:36	7440-38-2	
Barium	116	ug/L	10.0	1		01/11/22 11:36		
Cadmium	ND	ug/L	2.0	1		01/11/22 11:36		
Chromium	ND	ug/L	10.0	1		01/11/22 11:36		
_ead	ND	ug/L	10.0	1		01/11/22 11:36		
Lithium	ND	ug/L	20.0	1		01/11/22 11:36		
Selenium	ND ND	ug/L	10.0	1		01/11/22 11:36		
Silver	ND ND	•	10.0	1		01/11/22 11:36		
		ug/L				01/11/22 11.30	7440-22-4	
7470 Mercury			170 Preparation Met	hod: EP/	A 7470			
	Pace Analytica	al Services -	Indianapolis					
Mercury	ND	ug/L	2.0	1	01/14/22 06:55	01/14/22 12:18	7439-97-6	
3260 MSV Indiana	Analytical Meth	hod: EPA 50	030/8260					
	Pace Analytica	al Services -	Indianapolis					
Acetone	ND	ug/L	100	1		01/10/22 13:36	67-64-1	
Acrolein	ND	ug/L	50.0	1		01/10/22 13:36		
Acrylonitrile	ND	ug/L	100	1		01/10/22 13:36		
Benzene	ND	ug/L	5.0	1		01/10/22 13:36		
Bromobenzene	ND	ug/L	5.0	1		01/10/22 13:36		
Bromochloromethane	ND	ug/L	5.0	1		01/10/22 13:36		
Bromodichloromethane	ND	ug/L	5.0	1		01/10/22 13:36		
Bromoform	ND	ug/L	5.0	1		01/10/22 13:36		
Bromomethane	ND	ug/L	5.0	1		01/10/22 13:36		
2-Butanone (MEK)	ND	ug/L	25.0	1		01/10/22 13:36		
n-Butylbenzene	ND ND	ug/L	5.0	1		01/10/22 13:36		
sec-Butylbenzene	ND ND	ug/L ug/L	5.0	1		01/10/22 13:36		
	ND ND	•	5.0	1		01/10/22 13:36		
ert-Butylbenzene		ug/L		1				
Carbon disulfide	ND	ug/L	10.0			01/10/22 13:36		
Carbon tetrachloride	ND	ug/L	5.0	1		01/10/22 13:36		
Chlorobenzene	ND	ug/L	5.0	1		01/10/22 13:36		
Chloroethane	ND	ug/L	5.0	1		01/10/22 13:36		
Chloroform	ND	ug/L	5.0	1		01/10/22 13:36		
Chloromethane	ND	ug/L	5.0	1		01/10/22 13:36		
-Chlorotoluene	ND	ug/L	5.0	1		01/10/22 13:36		
-Chlorotoluene	ND	ug/L	5.0	1		01/10/22 13:36		
Dibromochloromethane	ND	ug/L	5.0	1		01/10/22 13:36		
I,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		01/10/22 13:36		
Dibromomethane	ND	ug/L	5.0	1		01/10/22 13:36		
,2-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:36	541-73-1	
,4-Dichlorobenzene	ND	ug/L	5.0	1		01/10/22 13:36	106-46-7	
rans-1,4-Dichloro-2-butene	ND	ug/L	100	1		01/10/22 13:36	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	1		01/10/22 13:36	5 75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1		01/10/22 13:36	75-34-3	



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV Indiana	Analytical Met	nod: EPA 50	030/8260					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	5.0	1		01/10/22 13:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:36		
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		01/10/22 13:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:36		
1,3-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:36		
2,2-Dichloropropane	ND	ug/L	5.0	1		01/10/22 13:36		
1,1-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:36		
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:36		
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		01/10/22 13:36		
Ethylbenzene	ND	ug/L	5.0	1		01/10/22 13:36		
Ethyl methacrylate	ND	ug/L	100	1		01/10/22 13:36		
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1		01/10/22 13:36		
n-Hexane	ND	ug/L	5.0	1		01/10/22 13:36		
2-Hexanone	ND	ug/L	25.0	1		01/10/22 13:36		
odomethane	ND	ug/L	10.0	1		01/10/22 13:36		
sopropylbenzene (Cumene)	ND	ug/L	5.0	1		01/10/22 13:36		
o-Isopropyltoluene	ND	ug/L	5.0	1		01/10/22 13:36		
Methylene Chloride	ND	ug/L	5.0	1		01/10/22 13:36		
1-Methylnaphthalene	ND	ug/L	10.0	1		01/10/22 13:36		
2-Methylnaphthalene	ND	ug/L	10.0	1		01/10/22 13:36		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1		01/10/22 13:36		
Methyl-tert-butyl ether	ND	ug/L	4.0	1		01/10/22 13:36		
Naphthalene	ND ND	ug/L	1.2	1		01/10/22 13:36		
n-Propylbenzene	ND ND	ug/L	5.0	1		01/10/22 13:36		
Styrene	ND ND	ug/L	5.0	1		01/10/22 13:36		
1,1,1,2-Tetrachloroethane	ND ND	ug/L	5.0	1		01/10/22 13:36		
1,1,2,2-Tetrachloroethane	ND ND	ug/L	5.0	1		01/10/22 13:36		
Tetrachloroethene	ND ND	ug/L	5.0	1		01/10/22 13:36		
Toluene	ND ND	ug/L	5.0	1		01/10/22 13:36		
1,2,3-Trichlorobenzene	ND ND	•	5.0	1		01/10/22 13:36		
1,2,4-Trichlorobenzene	ND ND	ug/L ug/L	5.0	1		01/10/22 13:36		
1,1,1-Trichloroethane	ND ND		5.0	1		01/10/22 13:36		
1,1,2-Trichloroethane	ND ND	ug/L ug/L	5.0	1		01/10/22 13:36		
Trichloroethene	ND ND	ug/L	5.0	1		01/10/22 13:36		
Trichloroethene Trichlorofluoromethane	ND ND			1		01/10/22 13:36		
	ND ND	ug/L	5.0 5.0	1		01/10/22 13:36		
1,2,3-Trichloropropane	ND ND	ug/L	5.0	1		01/10/22 13:36		
1,2,4-Trimethylbenzene		ug/L				01/10/22 13:36		
1,3,5-Trimethylbenzene	ND ND	ug/L	5.0	1				
Vinyl acetate	ND	ug/L	50.0	1		01/10/22 13:36		
Vinyl chloride	ND	ug/L	2.0	1		01/10/22 13:36		
Xylene (Total)	ND	ug/L	10.0	1		01/10/22 13:36	1330-20-7	
Surrogates	400	0/	70 400	4		01/10/22 13:36	1060 F2 7	
Dibromofluoromethane (S)	103	%. %.	78-120	1		01/10/22 13:36 01/10/22 13:36		
4-Bromofluorobenzene (S)	103		78-117	1				



Project:

M20032 Muncie Phase II

Pace Project No.:

50306617

QC Batch: QC Batch Method: 658512

EPA 7470

Analysis Method:

EPA 7470

Analysis Description:

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306617005, 50306617006

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50306617005, 50306617006

Blank Result

Reporting Limit

Qualifiers Analyzed

Mercury

Units ug/L

ND

2.0 01/14/22 12:11

LABORATORY CONTROL SAMPLE:

Parameter

3034139

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Date: 01/17/2022 01:53 PM

Units ug/L

Conc.

5.2

3034141

MS

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034140

50306625001

ug/L

MS Spike

MSD Spike Conc.

MSD Result

MS % Rec MSD

98

% Rec **RPD** 

Max RPD

Parameter

Units Result

ND

5

Result

5.0

104

99

75-125

Mercury

Conc.

5

5.0

% Rec

Limits

Qual 20 0

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

QC Batch: 658132

Date: 01/17/2022 01:53 PM

Analysis Method: EPA 7471 QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury

> Laboratory: Pace Analytical Services - Indianapolis

50306617001, 50306617002, 50306617003, 50306617004 Associated Lab Samples:

METHOD BLANK: Matrix: Solid

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

> Blank Reporting

Qualifiers Parameter Units Result Limit Analyzed

Mercury ND 0.21 01/13/22 07:47 mg/kg

LABORATORY CONTROL SAMPLE: 3032516

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Mercury 0.47 0.32 67 80-120 L5 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032517 3032518

> MSD MS

50306282008 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Conc. Result Result % Rec % Rec **RPD** RPD Qual Result Limits 0.74 Mercury mg/kg 0.23 0.56 0.53 0.84 93 116 75-125 13 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

METHOD BLANK: 3032509 Matrix: Solid

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

LABORATORY CONTROL SAMPLE:	3032510

Date: 01/17/2022 01:53 PM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Q	ualifiers
Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N2	
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3032	511		3032512							
	5	0306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	MO
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

			MS	MSD								
	5	0306619001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	M0
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

LABORATORY CONTROL SAMPLE:

Date: 01/17/2022 01:53 PM

QC Batch: 658009 Analysis Method: EPA 6010 QC Batch Method: EPA 3010 Analysis Description: 6010 MET

> Laboratory: Pace Analytical Services - Indianapolis

50306617005, 50306617006 Associated Lab Samples:

METHOD BLANK: 3032099 Matrix: Water

3032100

Associated Lab Samples: 50306617005, 50306617006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	01/11/22 11:26	
Barium	ug/L	ND	10.0	01/11/22 11:26	
Cadmium	ug/L	ND	2.0	01/11/22 11:26	
Chromium	ug/L	ND	10.0	01/11/22 11:26	
Lead	ug/L	ND	10.0	01/11/22 11:26	
Lithium	ug/L	ND	20.0	01/11/22 11:26	
Selenium	ug/L	ND	10.0	01/11/22 11:26	
Silver	ug/L	ND	10.0	01/11/22 11:26	

5	11.2	Spike	LCS	LCS	% Rec	0 ""
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	1000	1040	104	80-120	
Barium	ug/L	1000	1040	104	80-120	
Cadmium	ua/l	1000	908	100	80-120	

Cadmium ug/L 1000 998 100 80-120 Chromium ug/L 1000 1030 103 80-120 Lead 1000 970 97 80-120 ug/L Lithium ug/L 1000 1040 104 80-120 Selenium ug/L 1000 1010 101 80-120 Silver 80-120 ug/L 500 483 97

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3032	101		3032102							
		<b>5000000500</b> 4	MS	MSD		1405		1405	0/ 5			
		50306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	1000	1000	1110	1100	111	110	75-125	0	20	
Barium	ug/L	155	1000	1000	1260	1260	110	110	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1040	1040	104	104	75-125	0	20	
Chromium	ug/L	ND	1000	1000	1060	1060	106	105	75-125	1	20	
Lead	ug/L	ND	1000	1000	979	982	98	98	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1080	1090	107	108	75-125	1	20	
Selenium	ug/L	ND	1000	1000	1060	1060	105	106	75-125	0	20	
Silver	ug/L	ND	500	500	508	504	102	101	75-125	1	20	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

QC Batch: 658044 Analysis Method: EPA 5030/8260
QC Batch Method: EPA 5030/8260 Analysis Description: 8260 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306617005, 50306617006

METHOD BLANK: 3032187 Matrix: Water

Associated Lab Samples: 50306617005, 50306617006

Associated Lab Gampies.	30300017003, 30300017000				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,1,1-Trichloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,1,2-Trichloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,1-Dichloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,1-Dichloroethene	ug/L	ND	5.0	01/10/22 10:01	
1,1-Dichloropropene	ug/L	ND	5.0	01/10/22 10:01	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
1,2,3-Trichloropropane	ug/L	ND	5.0	01/10/22 10:01	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	01/10/22 10:01	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	01/10/22 10:01	
1,2-Dichlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
1,2-Dichloroethane	ug/L	ND	5.0	01/10/22 10:01	
1,2-Dichloropropane	ug/L	ND	5.0	01/10/22 10:01	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	01/10/22 10:01	
1,3-Dichlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
1,3-Dichloropropane	ug/L	ND	5.0	01/10/22 10:01	
1,4-Dichlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
1-Methylnaphthalene	ug/L	ND	10.0	01/10/22 10:01	
2,2-Dichloropropane	ug/L	ND	5.0	01/10/22 10:01	
2-Butanone (MEK)	ug/L	ND	25.0	01/10/22 10:01	
2-Chlorotoluene	ug/L	ND	5.0	01/10/22 10:01	
2-Hexanone	ug/L	ND	25.0	01/10/22 10:01	
2-Methylnaphthalene	ug/L	ND	10.0	01/10/22 10:01	
4-Chlorotoluene	ug/L	ND	5.0	01/10/22 10:01	
4-Methyl-2-pentanone (MIBK	() ug/L	ND	25.0	01/10/22 10:01	
Acetone	ug/L	ND	100	01/10/22 10:01	
Acrolein	ug/L	ND	50.0	01/10/22 10:01	
Acrylonitrile	ug/L	ND	100	01/10/22 10:01	
Benzene	ug/L	ND	5.0	01/10/22 10:01	
Bromobenzene	ug/L	ND	5.0	01/10/22 10:01	
Bromochloromethane	ug/L	ND	5.0	01/10/22 10:01	
Bromodichloromethane	ug/L	ND	5.0	01/10/22 10:01	
Bromoform	ug/L	ND	5.0	01/10/22 10:01	
Bromomethane	ug/L	ND	5.0	01/10/22 10:01	
Carbon disulfide	ug/L	ND	10.0	01/10/22 10:01	
Carbon tetrachloride	ug/L	ND	5.0	01/10/22 10:01	
Chlorobenzene	ug/L	ND	5.0	01/10/22 10:01	
Chloroethane	ug/L	ND	5.0	01/10/22 10:01	

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

METHOD BLANK: 3032187 Matrix: Water

Associated Lab Samples: 50306617005, 50306617006

Parameter Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
			<del></del> -	Qualifiers
loroform ug/L	ND	5.0	01/10/22 10:01	
loromethane ug/L	ND	5.0	01/10/22 10:01	
-1,2-Dichloroethene ug/L	ND	5.0	01/10/22 10:01	
-1,3-Dichloropropene ug/L	ND	5.0	01/10/22 10:01	
promochloromethane ug/L	ND	5.0	01/10/22 10:01	
promomethane ug/L	ND	5.0	01/10/22 10:01	
chlorodifluoromethane ug/L	ND	5.0	01/10/22 10:01	
nyl methacrylate ug/L	ND	100	01/10/22 10:01	
nylbenzene ug/L	ND	5.0	01/10/22 10:01	
xachloro-1,3-butadiene ug/L	ND	5.0	01/10/22 10:01	
lomethane ug/L	ND	10.0	01/10/22 10:01	
propylbenzene (Cumene) ug/L	ND	5.0	01/10/22 10:01	
ethyl-tert-butyl ether ug/L	ND	4.0	01/10/22 10:01	
ethylene Chloride ug/L	ND	5.0	01/10/22 10:01	
utylbenzene ug/L	ND	5.0	01/10/22 10:01	
Hexane ug/L	ND	5.0	01/10/22 10:01	
Propylbenzene ug/L	ND	5.0	01/10/22 10:01	
phthalene ug/L	ND	1.2	01/10/22 10:01	
sopropyltoluene ug/L	ND	5.0	01/10/22 10:01	
c-Butylbenzene ug/L	ND	5.0	01/10/22 10:01	
rrene ug/L	ND	5.0	01/10/22 10:01	
-Butylbenzene ug/L	ND	5.0	01/10/22 10:01	
rachloroethene ug/L	ND	5.0	01/10/22 10:01	
uene ug/L	ND	5.0	01/10/22 10:01	
ns-1,2-Dichloroethene ug/L	ND	5.0	01/10/22 10:01	
ns-1,3-Dichloropropene ug/L	ND	5.0	01/10/22 10:01	
ns-1,4-Dichloro-2-butene ug/L	ND	100	01/10/22 10:01	
chloroethene ug/L	ND	5.0	01/10/22 10:01	
chlorofluoromethane ug/L	ND	5.0	01/10/22 10:01	
nyl acetate ug/L	ND	50.0	01/10/22 10:01	
yl chloride ug/L	ND	2.0	01/10/22 10:01	
lene (Total) ug/L	ND	10.0	01/10/22 10:01	
Bromofluorobenzene (S) %.	103	78-117	01/10/22 10:01	
promofluoromethane (S) %.	102	78-120	01/10/22 10:01	
uene-d8 (S) %.	100	77-118	01/10/22 10:01	
rie-do (S) %.	100	77-110	01/10/22 10:01	

LABORATORY CONTROL SAMPLE:	3032188					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.1	102	76-125	
1,1,1-Trichloroethane	ug/L	50	52.3	105	73-132	
1,1,2,2-Tetrachloroethane	ug/L	50	53.2	106	65-131	
1,1,2-Trichloroethane	ug/L	50	52.8	106	74-127	
1,1-Dichloroethane	ug/L	50	54.4	109	73-133	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

LABORATORY CONTROL SAMPLE		Spike	LCS	LCS	% Rec	0 . ""
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifier
1,1-Dichloroethene	ug/L	50	56.8	114	67-136	
1,1-Dichloropropene	ug/L	50	60.6	121	72-128	
1,2,3-Trichlorobenzene	ug/L	50	47.2	94	58-136	
1,2,3-Trichloropropane	ug/L	50	49.0	98	69-126	
1,2,4-Trichlorobenzene	ug/L	50	48.6	97	48-149	
,2,4-Trimethylbenzene	ug/L	50	52.0	104	68-122	
I,2-Dibromoethane (EDB)	ug/L	50	50.6	101	76-126	
,2-Dichlorobenzene	ug/L	50	49.9	100	75-114	
,2-Dichloroethane	ug/L	50	53.1	106	69-135	
,2-Dichloropropane	ug/L	50	54.2	108	78-134	
,3,5-Trimethylbenzene	ug/L	50	53.1	106	68-120	
,3-Dichlorobenzene	ug/L	50	49.9	100	70-119	
,3-Dichloropropane	ug/L	50	53.0	106	74-131	
,4-Dichlorobenzene	ug/L	50	49.0	98	69-117	
I-Methylnaphthalene	ug/L	50	47.8	96	68-139	
2,2-Dichloropropane	ug/L	50	54.6	109	61-127	
2-Butanone (MEK)	ug/L	250	302	121	56-164	
2-Chlorotoluene	ug/L	50	52.7	105	74-115	
2-Hexanone	ug/L	250	276	110	63-137	
2-Methylnaphthalene	ug/L	50	49.7	99	62-129	
I-Chlorotoluene	ug/L	50	51.9	104	74-115	
I-Methyl-2-pentanone (MIBK)	ug/L	250	271	109	64-134	
Acetone	ug/L	250	315	126	46-140	
Acrolein	ug/L	1000	856	86	53-126	
Acrylonitrile	ug/L	250	266	106	68-132	
Benzene	ug/L	50	52.6	105	77-128	
Bromobenzene	ug/L	50	53.1	106	62-133	
Bromochloromethane	ug/L	50	56.6	113	71-124	
Bromodichloromethane	ug/L	50	53.4	107	70-124	
Bromoform	ug/L	50	45.3	91	65-116	
Bromomethane	ug/L	50	57.3	115	10-200	
Carbon disulfide	ug/L	50	51.4	103	70-131	
Carbon tetrachloride	ug/L	50	55.7	111	61-139	
Chlorobenzene	ug/L	50	50.8	102	76-124	
Chloroethane	ug/L	50	58.2	116	56-142	
Chloroform	ug/L	50	52.2	104	77-120	
Chloromethane	ug/L	50	52.6	105	29-141	
cis-1,2-Dichloroethene	ug/L	50	52.6	105	72-127	
cis-1,3-Dichloropropene	ug/L	50	54.5	109	71-131	
Dibromochloromethane	ug/L	50	50.0	100	69-132	
Dibromomethane	ug/L	50	50.5	101	76-130	
Dichlorodifluoromethane	ug/L	50	48.8	98	23-139	
Ethyl methacrylate	ug/L	50	54.4J	109	66-128	
Ethylbenzene	ug/L	50	51.7	103	76-119	
Hexachloro-1,3-butadiene	ug/L ug/L	50	50.0	100	58-140	
odomethane	_	50	45.9	92	10-200	
Juonnelliane	ug/L	50	45.9	92	10-200	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

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ABORATORY CONTROL SAMPLE:	3032188					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
thyl-tert-butyl ether	ug/L	50	55.2	110	75-129	
thylene Chloride	ug/L	50	54.6	109	72-129	
ıtylbenzene	ug/L	50	55.0	110	59-128	
xane	ug/L	50	58.9	118	75-141	
pylbenzene	ug/L	50	53.3	107	71-116	
nthalene	ug/L	50	46.7	93	67-136	
propyltoluene	ug/L	50	51.8	104	67-123	
Butylbenzene	ug/L	50	55.3	111	70-119	
ene	ug/L	50	52.4	105	66-123	
Butylbenzene	ug/L	50	52.0	104	54-133	
achloroethene	ug/L	50	50.5	101	70-124	
ene	ug/L	50	51.1	102	72-117	
-1,2-Dichloroethene	ug/L	50	53.4	107	75-133	
-1,3-Dichloropropene	ug/L	50	53.3	107	75-111	
-1,4-Dichloro-2-butene	ug/L	50	58.4J	117	39-147	
loroethene	ug/L	50	52.2	104	75-130	
nlorofluoromethane	ug/L	50	52.3	105	63-162	
l acetate	ug/L	200	178	89	42-139	
l chloride	ug/L	50	54.2	108	51-140	
ne (Total)	ug/L	150	152	101	73-117	
omofluorobenzene (S)	%.			104	78-117	
omofluoromethane (S)	%.			99	78-120	
ene-d8 (S)	%.			100	77-118	

MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	ATE: 3032	189		3032190	ı						
			MS	MSD								
	5	0306583004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	51.1	50.5	102	101	40-147	1	20	
1,1,1-Trichloroethane	ug/L	ND	50	50	52.6	52.7	105	105	53-161	0	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	54.0	56.9	108	114	58-134	5	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	53.6	53.7	107	107	60-141	0	20	
1,1-Dichloroethane	ug/L	ND	50	50	55.6	55.0	111	110	67-140	1	20	
1,1-Dichloroethene	ug/L	ND	50	50	58.9	60.3	118	121	59-154	2	20	
1,1-Dichloropropene	ug/L	ND	50	50	59.9	59.7	120	119	31-153	0	20	
1,2,3-Trichlorobenzene	ug/L	ND	50	50	43.3	43.6	87	87	10-151	1	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	50.4	50.3	101	101	63-140	0	20	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	42.0	41.5	84	83	10-156	1	20	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	49.8	49.0	99	97	11-145	2	20	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	50.7	51.3	101	103	54-144	1	20	
1,2-Dichlorobenzene	ug/L	ND	50	50	49.7	48.4	99	97	17-145	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	55.0	56.0	110	112	66-130	2	20	
1,2-Dichloropropane	ug/L	ND	50	50	55.6	55.6	111	111	65-136	0	20	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	50.4	50.6	101	101	11-143	0	20	
1,3-Dichlorobenzene	ug/L	ND	50	50	47.4	47.2	95	94	10-146	0	20	

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# **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

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MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	CATE: 3032			3032190							
			MS	MSD								
	5	0306583004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qu
1,3-Dichloropropane	ug/L	ND	50	50	54.2	54.3	108	109	53-145	0	20	
1,4-Dichlorobenzene	ug/L	ND	50	50	46.8	47.4	94	95	17-141	1	20	
1-Methylnaphthalene	ug/L	ND	50	50	45.6	46.8	91	94	28-147	3	20	
2,2-Dichloropropane	ug/L	ND	50	50	52.6	52.8	105	106	35-142	0	20	
2-Butanone (MEK)	ug/L	ND	250	250	302	315	121	126	49-173	4	20	
2-Chlorotoluene	ug/L	ND	50	50	51.0	52.3	102	105	10-148	3	20	
2-Hexanone	ug/L	ND	250	250	295	302	118	121	57-142	2	20	
2-Methylnaphthalene	ug/L	ND	50	50	47.3	47.6	95	95	15-141	1	20	
I-Chlorotoluene	ug/L	ND	50	50	49.5	50.3	99	101	11-142	2	20	
I-Methyl-2-pentanone MIBK)	ug/L	ND	250	250	291	298	116	119	59-139	3	20	
Acetone	ug/L	ND	250	250	349	360	139	144	44-171	3	20	
Acrolein	ug/L	ND	1000	1000	907	919	91	92	25-131	1	20	
Acrylonitrile	ug/L	ND	250	250	276	284	110	114	60-145	3	20	
Benzene	ug/L	ND	50	50	53.4	53.1	107	106	69-128	1	20	
Bromobenzene	ug/L	ND	50	50	52.8	53.4	106	107	10-157	1	20	
Bromochloromethane	ug/L	ND	50	50	61.5	60.4	123	121	58-138	2	20	
Bromodichloromethane	ug/L	ND	50	50	54.2	55.2	108	110	51-138	2	20	
Bromoform	ug/L	ND	50	50	44.5	46.7	89	93	43-130	5	20	
Bromomethane	ug/L	ND	50	50	58.7	57.2	117	114	10-195	3	20	
Carbon disulfide	ug/L	ND	50	50	53.7	52.9	107	106	37-149	2	20	
Carbon tetrachloride	ug/L	ND	50	50	54.4	54.0	109	108	39-155	1	20	
Chlorobenzene	ug/L	ND	50	50	50.6	50.6	101	101	28-147	0	20	
Chloroethane	ug/L	ND	50	50	61.6	61.4	123	123	58-158	0	20	
Chloroform	ug/L	ND	50	50	52.9	53.1	106	106	54-141	0	20	
Chloromethane	ug/L	ND	50	50	54.1	52.8	108	106	41-145	2	20	
sis-1,2-Dichloroethene	ug/L	ND	50	50	52.7	52.9	105	106	45-150	0		
cis-1,3-Dichloropropene	ug/L	ND	50	50	53.9	54.5	108	109	42-139	1	20	
Dibromochloromethane	ug/L	ND	50	50	50.5	50.6	101	101	48-139	0	20	
Dibromomethane	ug/L	ND	50	50	52.0	52.6	104	105	58-140	1	20	
Dichlorodifluoromethane	ug/L	ND	50	50	43.8	43.7	88	87	45-161	0		
Ethyl methacrylate	ug/L	ND	50	50	54.6J	55.1J	109	110	63-149		20	
Ethylbenzene	ug/L	ND	50	50	50.8	50.5	102	101	36-144	1	20	
Hexachloro-1,3-butadiene	ug/L	ND	50	50	43.9	43.3	88	87	10-164	1	20	
odomethane	ug/L	ND	50	50	48.4	49.5	97	99	10-196	2		
sopropylbenzene Cumene)	ug/L	ND	50	50	51.5	51.9	103	104	21-148	1	20	
Methyl-tert-butyl ether	ug/L	ND	50	50	56.9	57.7	112	114	72-135	1	20	
Methylene Chloride	ug/L	ND	50	50	53.0	53.3	106	107	58-136	1	20	
n-Butylbenzene	ug/L	ND	50	50	50.9	50.8	102	102	10-147	0		
n-Hexane	ug/L	ND	50	50	57.9	56.9	116	114	52-157	2		
n-Propylbenzene	ug/L	ND	50	50	51.3	51.9	103	104	11-141	1	20	
Naphthalene	ug/L	ND	50	50	46.4	47.0	93	94	45-134	1	20	
o-Isopropyltoluene	ug/L	ND	50	50	49.9	49.4	100	99	10-149	1	20	
sec-Butylbenzene	ug/L	ND	50	50	53.2	53.3	106	107	10-148	0		
Styrene	ug/L	ND	50	50	49.4	48.4	99	97	19-143	2		

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

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MATRIX SPIKE & MATRIX SP	IKE DUPL	LICATE: 3032	189 MS	MSD	3032190							
		50306583004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
tert-Butylbenzene	ug/L	ND	50	50	50.5	51.0	101	102	14-123	1	20	
Tetrachloroethene	ug/L	ND	50	50	47.1	46.4	94	93	26-148	1	20	
Toluene	ug/L	ND	50	50	50.7	50.3	101	100	46-134	1	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	52.3	52.4	105	105	43-155	0	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	53.3	52.8	107	106	39-132	1	20	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	59.7J	58.9J	119	118	18-143		20	
Trichloroethene	ug/L	ND	50	50	51.4	51.8	103	104	35-151	1	20	
Trichlorofluoromethane	ug/L	ND	50	50	51.9	51.9	104	104	55-170	0	20	
Vinyl acetate	ug/L	ND	200	200	174	176	87	88	24-134	1	20	
Vinyl chloride	ug/L	ND	50	50	55.5	54.9	111	110	59-146	1	20	
Xylene (Total)	ug/L	ND	150	150	149	146	100	98	32-140	2	20	
4-Bromofluorobenzene (S)	%.						105	101	78-117			
Dibromofluoromethane (S)	%.						100	99	78-120			
Toluene-d8 (S)	%.						101	100	77-118			

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

QC Batch: 658080 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

, , , ,	,,	Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg		5.0	01/10/22 19:46	
1,1,1-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,4-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
2,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2-Butanone (MEK)	ug/kg	ND	25.0	01/10/22 19:46	
2-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
2-Hexanone	ug/kg	ND	100	01/10/22 19:46	
2-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
4-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	25.0	01/10/22 19:46	
Acetone	ug/kg	ND	100	01/10/22 19:46	
Acrolein	ug/kg	ND	100	01/10/22 19:46	
Acrylonitrile	ug/kg	ND	100	01/10/22 19:46	
Benzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromodichloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromoform	ug/kg	ND	5.0	01/10/22 19:46	
Bromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Carbon disulfide	ug/kg	ND	10.0	01/10/22 19:46	
Carbon tetrachloride	ug/kg	ND	5.0	01/10/22 19:46	
Chlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Chloroethane	ug/kg	ND	5.0	01/10/22 19:46	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

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METHOD BLANK: 3032291 Matrix: Solid
Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloroform	ug/kg	ND	5.0	01/10/22 19:46	
Chloromethane	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
Dibromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Dibromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Dichlorodifluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
Ethyl methacrylate	ug/kg	ND	100	01/10/22 19:46	
Ethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	01/10/22 19:46	
odomethane	ug/kg	ND	100	01/10/22 19:46	
sopropylbenzene (Cumene)	ug/kg	ND	5.0	01/10/22 19:46	
Methyl-tert-butyl ether	ug/kg	ND	5.0	01/10/22 19:46	
Methylene Chloride	ug/kg	ND	20.0	01/10/22 19:46	
n-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
n-Hexane	ug/kg	ND	5.0	01/10/22 19:46	
n-Propylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Naphthalene	ug/kg	ND	5.0	01/10/22 19:46	
o-Isopropyltoluene	ug/kg	ND	5.0	01/10/22 19:46	
sec-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Styrene	ug/kg	ND	5.0	01/10/22 19:46	
ert-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Tetrachloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Toluene	ug/kg	ND	5.0	01/10/22 19:46	
rans-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
rans-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
rans-1,4-Dichloro-2-butene	ug/kg	ND	100	01/10/22 19:46	
Trichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Trichlorofluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
√inyl acetate	ug/kg	ND	100	01/10/22 19:46	
/inyl chloride	ug/kg	ND	5.0	01/10/22 19:46	
Kylene (Total)	ug/kg	ND	10.0	01/10/22 19:46	
4-Bromofluorobenzene (S)	%.	97	40-149	01/10/22 19:46	
Dibromofluoromethane (S)	%.	101	73-132	01/10/22 19:46	
Toluene-d8 (S)	%.	96	66-148	01/10/22 19:46	

LABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	50	43.6	87	68-129	
1,1,2,2-Tetrachloroethane	ug/kg	50	44.1	88	67-137	
1,1-Dichloroethene	ug/kg	50	46.8	94	53-135	
1,2,4-Trimethylbenzene	ug/kg	50	44.1	88	61-125	
1,2-Dibromoethane (EDB)	ug/kg	50	48.7	97	68-125	

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Project: M20032 Muncie Phase II

Pace Project No.: 50306617

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LABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
,2-Dichloroethane	ug/kg	50	45.9	92	69-128	
,2-Dichloropropane	ug/kg	50	45.7	91	70-130	
nzene	ug/kg	50	45.9	92	69-125	
lorobenzene	ug/kg	50	44.6	89	66-121	
loroform	ug/kg	50	44.2	88	66-123	
-1,2-Dichloroethene	ug/kg	50	44.5	89	67-122	
ylbenzene	ug/kg	50	46.0	92	57-126	
propylbenzene (Cumene)	ug/kg	50	46.8	94	62-132	
hyl-tert-butyl ether	ug/kg	50	47.0	94	66-136	
hthalene	ug/kg	50	44.4	89	59-131	
achloroethene	ug/kg	50	44.9	90	61-123	
ene	ug/kg	50	45.8	92	67-128	
s-1,2-Dichloroethene	ug/kg	50	42.6	85	61-127	
nloroethene	ug/kg	50	44.6	89	64-122	
yl chloride	ug/kg	50	41.4	83	42-148	
ene (Total)	ug/kg	150	149	100	62-126	
omofluorobenzene (S)	%.			102	40-149	
omofluoromethane (S)	%.			99	73-132	
uene-d8 (S)	%.			98	66-148	

MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	ATE: 3032	293		3032294							
			MS	MSD								
	50	0306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/kg	ND	133	100	133	103	99	103	38-149	25	20	R1
1,1,2,2-Tetrachloroethane	ug/kg	ND	133	100	147	111	110	111	19-169	28	20	R1
1,1-Dichloroethene	ug/kg	ND	133	100	153	121	115	121	24-162	23	20	R1
1,2,4-Trimethylbenzene	ug/kg	ND	133	100	137	97.3	103	97	10-169	34	20	R1
1,2-Dibromoethane (EDB)	ug/kg	ND	133	100	130	89.7	98	90	19-153	37	20	R1
1,2-Dichloroethane	ug/kg	ND	133	100	134	98.6	100	99	32-146	30	20	R1
1,2-Dichloropropane	ug/kg	ND	133	100	129	99.1	97	99	39-141	26	20	R1
Benzene	ug/kg	ND	133	100	136	102	102	102	35-140	28	20	R1
Chlorobenzene	ug/kg	ND	133	100	120	80.5	90	80	16-142	40	20	R1
Chloroform	ug/kg	ND	133	100	133	102	100	102	30-146	27	20	R1
cis-1,2-Dichloroethene	ug/kg	ND	133	100	133	101	100	101	30-145	28	20	R1
Ethylbenzene	ug/kg	ND	133	100	131	88.5	98	88	10-150	38	20	R1
Isopropylbenzene (Cumene)	ug/kg	ND	133	100	131	91.6	99	92	10-153	36	20	R1
Methyl-tert-butyl ether	ug/kg	ND	133	100	138	106	104	106	45-153	26	20	R1
Naphthalene	ug/kg	ND	133	100	87.0	53.3	65	53	10-130	48	20	R1
Tetrachloroethene	ug/kg	ND	133	100	138	105	104	105	10-179	28	20	R1
Toluene	ug/kg	ND	133	100	139	98.1	104	98	20-158	34	20	R1
trans-1,2-Dichloroethene	ug/kg	ND	133	100	128	100	96	100	24-149	25	20	R1
Trichloroethene	ug/kg	ND	133	100	122	93.2	91	93	10-168	26	20	R1
Vinyl chloride	ug/kg	ND	133	100	136	105	102	105	10-165	26	20	R1

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 3032	293 MS	MSD	3032294							
		50306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Xylene (Total)	ug/kg	ND	400	300	415	284	104	95	10-152	38	20	RS
4-Bromofluorobenzene (S)	%.						96	89	40-149			
Dibromofluoromethane (S)	%.						97	96	73-132			
Toluene-d8 (S)	%.						107	108	66-148			

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50306617

QC Batch: 657974 Analysis Method: SM 2540G

QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306617001, 50306617002, 50306617003, 50306617004

SAMPLE DUPLICATE: 3031995

50306616001 Dup Max Result RPD RPD Qualifiers Parameter Units Result 42.7 Percent Moisture % 47.6 11 5 N2,R1

SAMPLE DUPLICATE: 3031996

Date: 01/17/2022 01:53 PM

		50306619001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	22.5	22.8	2		5 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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

#### **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**

Date: 01/17/2022 01:53 PM

- L5 LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
- 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.
- R1 RPD value was outside control limits.
- RS The RPD value in one of the constituent analytes was outside the control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50306617

Date: 01/17/2022 01:53 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306617001	A50sed	EPA 3050	658130	EPA 6010	658450
50306617002	A51sed	EPA 3050	658130	EPA 6010	658450
50306617003	DUP2	EPA 3050	658130	EPA 6010	658450
50306617004	A52sed	EPA 3050	658130	EPA 6010	658450
50306617005	SW-2	EPA 3010	658009	EPA 6010	658163
50306617006	DUP3	EPA 3010	658009	EPA 6010	658163
50306617005	SW-2	EPA 7470	658512	EPA 7470	658586
50306617006	DUP3	EPA 7470	658512	EPA 7470	658586
50306617001	A50sed	EPA 7471	658132	EPA 7471	658400
50306617002	A51sed	EPA 7471	658132	EPA 7471	658400
50306617003	DUP2	EPA 7471	658132	EPA 7471	658400
50306617004	A52sed	EPA 7471	658132	EPA 7471	658400
50306617005	SW-2	EPA 5030/8260	658044		
50306617006	DUP3	EPA 5030/8260	658044		
50306617001	A50sed	EPA 8260	658080		
50306617002	A51sed	EPA 8260	658080		
50306617003	DUP2	EPA 8260	658080		
50306617004	A52sed	EPA 8260	658080		
50306617001	A50sed	SM 2540G	657974		
50306617002	A51sed	SM 2540G	657974		
50306617003	DUP2	SM 2540G	657974		
50306617004	A52sed	SM 2540G	657974		

Pace Analytical"	CHAIN-OF-CUSTODY Analytical Request Document  Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields							s and						03 		6:	17	orkorder Number or					
Company: Mundell and Associat	Billing Information:							100			0661		-				USE ONLY						
Address: 110 S Downey Ave, Indianapolis, IN 46219			110 S Downey Ave, Indianapolis, IN 46219								-			•					lager:				
Report To: Luke Johnstone			Email To: Ljohnstone@mundellassociates.com							** Pre		ive Type		tric acid,					acid, (4) sodium hydroxide, (5) zinc acetate,				
Сору То:			Site Collection Info/Address: 4300/4400 BLK S Hoyt Ave Muncie, Indiana							(6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Ot  Analyses					) Unprese								
Customer Project Name/Number: M20032 Muncie Phase II			State: County/City: Time Zone Collected: IN / Muncie   ]PT   ]MT   ]CT   X   ET						Test.				Analys	es				Lab Sample Receipt Checklist:					
Phone: 317-630-9060	Site/Facility II	D #-	1 11	ividifcie		ce Monitor		v JE I			1		1 1						Custody Seals Present/Intact Y N NA Custody Signatures Present Y N NA				
Email: Ljohnstone@mundellassociates.com				[ ] Yes [ ] No					3.4					1-				Collector Signature Present Y N NA					
Collected By (print): Purchase Order # :				DW PWS ID #:				1	6010B	1								Bottles Intact Y N NA Correct Bottles Y N NA					
Luke Johnstone Quote #:					DW Location Code:				_	9	4								Sufficient Volume Y N NA				
Collected (signature)	ted (signature): Turnaround Date Requir				Immediately Packed on Ice:  [x] Yes [] No  Field Filtered (if anglicable):				via EPA									Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA					
Sample Disposal:  [x ] Dispose as appropriate  [] Return  [] Archive:  [] Hold:	Rush: (Exped [ ] Same [ ] 2 Day [ ] 4 Day	[ 1 Yes [ 1 No				6	RCRA 8 Metals + Lithium v	Total RCRA 8 Metals + Lithium	18260	(8260					Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA pH Strips:								
* Matrix Codes (Insert in Matrix	the health of the property		and the second				/),		e: P	Me	Z S	EPA	EP/			1			Sulfide Present Y N NA Lead Acetate Strips:				
Product (P), Soil/Solid (SL), Oil ( Customer Sample ID	OL), Wipe (WP), / Matrix *	Comp / Grab	Collec	cted (or site Start)	Compo	Res	# of Ctns	Container Type: Plastic (P)	Total RCRA 8	Total RCRA 8	VOC's full list EPA8260	VOC's full lis	VOC's full list EPA8260					LAB USE ONLY: Lab Sample # / Comments:					
A50sed	SL	Grab	1/6	14:00			1	5	G	X			x					$\vdash$	Oplan				
A51sed	SL		1/6	14:15	1		+	5	G	X	-		x						and a				
DUP2	SL	Grab	1/6	14.15	+	1	+	5	G	X	-		x		-				1				
A52sed	SL	Grab	1/6	14.20	+	1	+	5	-	X	-		X				i s	$\vdash$	841				
SW-2	W	Grab	1/6	14:30	-	1	+	4	G	^-	x	X	^					$\vdash$	205				
DUP3	w	-	1/6	14.43	-	1	+	4	G/P		X	X	Н			+	3		900				
DUFS	W	Grab	1/6					-	G/P	14	Ê												
Customer Remarks / Special Con	nditions / Possible	Hazards:	Type of Ic	e Used:	Wet	Blue	Dry	None			SHC	ORT HO	LDS PR	ESENT (	<72 hour	s): Y	N	N/A	LAB Sample Temperature Info:				
Total RCRA 8 Metals + Lithiur VOC full list	n			laterial Use								Tracki	ng#:	l via:					Temp Blank Received: Y N N. Therm ID#:  Cooler 1 Temp Upon Receipt: 1 D  Cooler 1 Therm Corr. Factor				
Relinquished M/Company: (Sign	nature)	Date	Radchem e/Time:		Received to		-		_	di	100 100 30	Date		Clie	nt Cou	rier Pa	2000	_	Cooler 1 Corrected Temp: 4.2 of Comments:				
two of (Madel)			e/Time: Received by/Company (Signature)							_		11111				ble #: ctnum:			Trip Blank Received: Y N NA				

Received by/Company: (Signature)

Date/Time:

HCL MeOH TSP Other

Page:

Non Conformance(s):

YES / NO

Template: Prelogin:

PM:

Date/Time:



Relinquished by/Company: (Signature)

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

Pace Analytical

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	OTHER	5. Packing Material:	☐ Bubble Wrap	Bubble Bags				
2. Custody Seal on Cooler/Box Present: Yes	No				□None	☐ Other		
(If yes)Seals Intact:    Yes    No (leave blank		were prese	nt)	,				
3. Thermometer: 123 (56 ABCDEF	9							
4. Cooler Temperature: 4.4 /4.2 Temp should be above freezing to 6°C (Initial/Corrected)	-			7. If temp. is over 6°C or 1	under 0°C, was the PN	notified?:	☐ Yes	□ No
All	discrepand	ies 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)	/		,					
rt Hold Time Analysis (48 hours or less)?    HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)   Any non-conformance to pH recommendations will be noted on the contain count form								AC 1-72
Fime 5035A TC placed in Freezer or Short Holds To Lab	Time: 15	:39,	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?	<b>√</b>		Headspace Wiscon	sin Sulfide?		Decemb	Abrest	No VOA Vials S
Containers Intact?:	1	1	Headspace in VOA See Containter Co	Present	Absent	NO YOM VISIS		
sample Label (IDs/Dates/Times) Match COC?: xcept TCs, which only require sample ID	Trip Blank Present	?		V				
xtra labels on Terracore Vials? (soils only)	Trip Blank Custody	Seals?:			V			
OMMENTS:								

		SBS Much (only) Kit																										dot on con	
COC Line Item	WGFU	R	DG9H VG9Fb	VOA VIAL HS (>6mm)	VG9U	DGBO	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe	Matrix	HNO: H2SC pH <	3/ NaOH/ 04 ZNAc 2 pH > 9	NaOH pH>10
1	1	4													-											51	-		
2																							1 =						
3	1/1																												
4	1	1																											
5			3																1	1	-					W	V		
6			1																1							_ ]	1	4	
7																					-						+14-		-
8																											4		-
9				1,		- T																				_			-
10																								_		_			
11																												1	
12						4																							

Container Codes

	Gla	SS				Plas	tic	/ Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125m	L unpreserved plastic
DG9P	40mL TSP amber vial	_	1L unpreserved glass	BP1N				L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125m	L 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	Syring	e Kit	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic			
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air F	ilter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air C	assettes
I	40mL w/hexane wipe vial	AG1U	1 liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terra	core kit
<b>NGKU</b>	8oz unpreserved clear jar		500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120n	nL Coliform Na Thiosulf
	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Sum	ma Can
IGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Ziplo	c Bag
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water
3G1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass		250mL H2SO4 plastic	SL		Solid
NE.	General				250mL NaOH, ZnAc plastic	NAL	OL	Non-aqueous liquid
						VALUE		Minn

=		tic / Wilse.	
Ī	BP4U	125mL unpreserved plastic	
	BP4N	125mL HNO3 plastic	
	BP4S	125mL H2SO4 plastic	

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

WT		Water	
SL		Solid Non-aqueous liquid	
NAL	OL	Non-aqueous liquid	Oil
WP	11	Wipe	





January 17, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



# **SAMPLE SUMMARY**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50306629001	SW-3	Water	01/06/22 15:45	01/07/22 12:35
50306629002	A53sed	Solid	01/06/22 15:30	01/07/22 12:35
50306629003	A54	Water	01/06/22 16:00	01/07/22 12:35
50306629004	Trip Blank	Water	01/06/22 08:00	01/07/22 12:35



# **SAMPLE ANALYTE COUNT**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50306629001	SW-3	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 5030/8260	SLB	75	PASI-I
50306629002	A53sed	EPA 6010	JDG	8	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8260	TMW	75	PASI-I
		SM 2540G	ADT	1	PASI-I
50306629003	A54	EPA 6010	JDG	8	PASI-I
		EPA 7470	ILP	1	PASI-I
50306629004	Trip Blank	EPA 5030/8260	SLB	75	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50306629001	SW-3					
EPA 6010	Barium	144	ug/L	10.0	01/11/22 11:59	
50306629002	A53sed					
EPA 6010	Arsenic	4.4	mg/kg	1.5	01/13/22 12:18	
EPA 6010	Barium	58.1	mg/kg	1.5	01/13/22 12:18	
EPA 6010	Chromium	8.6	mg/kg	1.5	01/13/22 12:18	
EPA 6010	Lead	18.9	mg/kg	1.5	01/13/22 12:18	
EPA 6010	Lithium	8.7	mg/kg	7.5	01/13/22 12:18	N2
SM 2540G	Percent Moisture	38.8	%	0.10	01/08/22 08:56	N2



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: SW-3	Lab ID: 503	06629001	Collected: 01/	06/22 15:4	S Received: 0	1/07/22 12:35	Matrix: Water	
Parameters	Results	Units	Report Lim	it DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Meth	nod: EPA 60	010 Preparation	Лethod: Е	PA 3010			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	ND	ug/L	10	.0 1	01/10/22 10:2:	2 01/11/22 11:59	9 7440-38-2	
Barium	144	ug/L		.0 1		2 01/11/22 11:59		
Cadmium	ND	ug/L		.0 1		2 01/11/22 11:59		
Chromium	ND	ug/L		.0 1		2 01/11/22 11:59		
Lead	ND	ug/L		.0 1		2 01/11/22 11:59		
_ithium	ND	ug/L		.0 1		2 01/11/22 11:59		
Selenium	ND	ug/L		.0 1		2 01/11/22 11:59		
Silver	ND	ug/L		.0 1		2 01/11/22 11:59		
470 Mercury	Analytical Meth	nod: EPA 74	170 Preparation	/lethod: E	PA 7470			
	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	ug/L	2	.0 1	01/14/22 06:5	5 01/14/22 13:2	8 7439-97-6	
3260 MSV Indiana	Analytical Meth	nod: EPA 50	030/8260					
	Pace Analytica	l Services -	Indianapolis					
Acetone	ND	ug/L	1	00 1		01/11/22 16:0	5 67-64-1	L1
Acrolein	ND	ug/L	50	.0 1		01/11/22 16:0	5 107-02-8	
Acrylonitrile	ND	ug/L	1	00 1		01/11/22 16:0	5 107-13-1	
Benzene	ND	ug/L	ļ	.0 1		01/11/22 16:0	5 71-43-2	
Bromobenzene	ND	ug/L	Į	.0 1		01/11/22 16:0	5 108-86-1	
Bromochloromethane	ND	ug/L	ļ	.0 1		01/11/22 16:0	5 74-97-5	
Bromodichloromethane	ND	ug/L	Į	.0 1		01/11/22 16:0	5 75-27-4	
Bromoform	ND	ug/L	į.	.0 1		01/11/22 16:0	5 75-25-2	
Bromomethane	ND	ug/L	į.	.0 1		01/11/22 16:0	5 74-83-9	
2-Butanone (MEK)	ND	ug/L	25	.0 1		01/11/22 16:0	5 78-93-3	
-Butylbenzene	ND	ug/L	Į	.0 1		01/11/22 16:0	5 104-51-8	
ec-Butylbenzene	ND	ug/L	Į	.0 1		01/11/22 16:0	5 135-98-8	
ert-Butylbenzene	ND	ug/L	Į	.0 1		01/11/22 16:0	5 98-06-6	
Carbon disulfide	ND	ug/L	10	.0 1		01/11/22 16:0	5 75-15-0	
Carbon tetrachloride	ND	ug/L	ļ	.0 1		01/11/22 16:0	5 56-23-5	
Chlorobenzene	ND	ug/L	ļ	.0 1		01/11/22 16:0	5 108-90-7	
Chloroethane	ND	ug/L	Į	.0 1		01/11/22 16:0	5 75-00-3	
Chloroform	ND	ug/L	ļ	.0 1		01/11/22 16:0	5 67-66-3	
Chloromethane	ND	ug/L	į	.0 1		01/11/22 16:0	5 74-87-3	
2-Chlorotoluene	ND	ug/L	į	.0 1		01/11/22 16:0		
I-Chlorotoluene	ND	ug/L		.0 1		01/11/22 16:0		
Dibromochloromethane	ND	ug/L		.0 1		01/11/22 16:0		
,2-Dibromoethane (EDB)	ND	ug/L		.0 1		01/11/22 16:0		
Dibromomethane	ND	ug/L		.0 1		01/11/22 16:0		
,2-Dichlorobenzene	ND	ug/L		.0 1		01/11/22 16:0		
,3-Dichlorobenzene	ND	ug/L		.0 1		01/11/22 16:0		
I,4-Dichlorobenzene	ND	ug/L		.0 1		01/11/22 16:0		
rans-1,4-Dichloro-2-butene	ND	ug/L		00 1		01/11/22 16:0		
Dichlorodifluoromethane	ND	ug/L		.0 1		01/11/22 16:0		
1.1-Dichloroethane	ND	ug/L		.0 1		01/11/22 16:0		



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: SW-3	Lab ID: 503	06629001	Collected: 01/06/2	22 15:45	Received:	01/07/22 12:35 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV Indiana	Analytical Met	hod: EPA 50	030/8260					
	Pace Analytic	al Services -	- Indianapolis					
1,2-Dichloroethane	ND	ug/L	5.0	1		01/11/22 16:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:05		
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:05		
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:05		
1,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:05		
1,3-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:05		
2,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:05		
1,1-Dichloropropene	ND	ug/L	5.0	1		01/11/22 16:05		
cis-1,3-Dichloropropene	ND	ug/L	5.0	1		01/11/22 16:05		
trans-1,3-Dichloropropene	ND	ug/L	5.0	1		01/11/22 16:05		
Ethylbenzene	ND	ug/L	5.0	1		01/11/22 16:05		
Ethyl methacrylate	ND ND	ug/L	100	1		01/11/22 16:05		
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1		01/11/22 16:05		
n-Hexane	ND ND	ug/L	5.0	1		01/11/22 16:05		
2-Hexanone	ND ND	ug/L ug/L	25.0	1		01/11/22 16:05		
odomethane	ND ND	-	10.0	1		01/11/22 16:05		
	ND ND	ug/L	5.0	1		01/11/22 16:05		
sopropylbenzene (Cumene)		ug/L		1				
o-Isopropyltoluene	ND	ug/L	5.0			01/11/22 16:05 01/11/22 16:05		
Methylene Chloride	ND	ug/L	5.0	1				
I-Methylnaphthalene	ND	ug/L	10.0	1		01/11/22 16:05		
2-Methylnaphthalene	ND	ug/L	10.0	1		01/11/22 16:05		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1		01/11/22 16:05		
Methyl-tert-butyl ether	ND	ug/L	4.0	1		01/11/22 16:05		
Naphthalene	ND	ug/L	1.2	1		01/11/22 16:05		
n-Propylbenzene	ND	ug/L	5.0	1		01/11/22 16:05		
Styrene	ND	ug/L	5.0	1		01/11/22 16:05		
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		01/11/22 16:05		
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		01/11/22 16:05		
Tetrachloroethene	ND	ug/L	5.0	1		01/11/22 16:05		
Toluene	ND	ug/L	5.0	1		01/11/22 16:05		
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1		01/11/22 16:05		
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1		01/11/22 16:05		
I,1,1-Trichloroethane	ND	ug/L	5.0	1		01/11/22 16:05		
1,1,2-Trichloroethane	ND	ug/L	5.0	1		01/11/22 16:05		
Trichloroethene	ND	ug/L	5.0	1		01/11/22 16:05		
Trichlorofluoromethane	ND	ug/L	5.0	1		01/11/22 16:05		
,2,3-Trichloropropane	ND	ug/L	5.0	1		01/11/22 16:05		
1,2,4-Trimethylbenzene	ND	ug/L	5.0	1		01/11/22 16:05		
1,3,5-Trimethylbenzene	ND	ug/L	5.0	1		01/11/22 16:05		
/inyl acetate	ND	ug/L	50.0	1		01/11/22 16:05		
/inyl chloride	ND	ug/L	2.0	1		01/11/22 16:05	75-01-4	
Kylene (Total)	ND	ug/L	10.0	1		01/11/22 16:05	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%.	78-120	1		01/11/22 16:05		
1-Bromofluorobenzene (S)	103	%.	78-117	1		01/11/22 16:05		
Toluene-d8 (S)	99	%.	77-118	1		01/11/22 16:05	2037-26-5	



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Lab ID: 50306629002 Sample: A53sed Collected: 01/06/22 15:30 Received: 01/07/22 12:35 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Indianapolis 4.4 01/11/22 10:22 01/13/22 12:18 7440-38-2 Arsenic mg/kg 1.5 1 **Barium** 58.1 mg/kg 1.5 01/11/22 10:22 01/13/22 12:18 7440-39-3 1 Cadmium ND mg/kg 0.75 01/11/22 10:22 01/13/22 12:18 7440-43-9 01/11/22 10:22 01/13/22 12:18 Chromium 8.6 mg/kg 1.5 7440-47-3 01/11/22 10:22 01/13/22 12:18 Lead 18.9 mg/kg 1.5 1 7439-92-1 Lithium 8.7 mg/kg 7.5 01/11/22 10:22 01/13/22 12:18 7439-93-2 N2 1 Selenium ND 1.5 01/11/22 10:22 01/13/22 12:18 7782-49-2 mg/kg 1 0.75 Silver NΠ 01/11/22 10:22 01/13/22 12:18 7440-22-4 mg/kg 1 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.34 01/11/22 11:25 01/13/22 09:28 7439-97-6 Mercury mg/kg 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND ug/kg 146 1 01/11/22 01:51 67-64-1 Acrolein ND ug/kg 146 1 01/11/22 01:51 107-02-8 ND Acrylonitrile ug/kg 146 01/11/22 01:51 107-13-1 1 ND 7.3 Benzene ug/kg 1 01/11/22 01:51 71-43-2 ND Bromobenzene 7.3 01/11/22 01:51 108-86-1 ug/kg 1 ND 7.3 Bromochloromethane ug/kg 1 01/11/22 01:51 74-97-5 Bromodichloromethane ND ug/kg 7.3 1 01/11/22 01:51 75-27-4 Bromoform ND ug/kg 7.3 01/11/22 01:51 75-25-2 Bromomethane ND 7.3 01/11/22 01:51 74-83-9 ug/kg 1 2-Butanone (MEK) ND ug/kg 36.4 1 01/11/22 01:51 78-93-3 ug/kg n-Butylbenzene ND 7.3 1 01/11/22 01:51 104-51-8 ug/kg sec-Butylbenzene ND 7.3 01/11/22 01:51 135-98-8 1 ug/kg tert-Butylbenzene ND 7.3 01/11/22 01:51 98-06-6 1 Carbon disulfide ND 14.6 01/11/22 01:51 75-15-0 ug/kg 1 01/11/22 01:51 56-23-5 Carbon tetrachloride ND ug/kg 7.3 1 7.3 Chlorobenzene ND ug/kg 1 01/11/22 01:51 108-90-7 Chloroethane ND ug/kg 7.3 1 01/11/22 01:51 75-00-3 Chloroform ND ug/kg 7.3 01/11/22 01:51 67-66-3 Chloromethane ND 7.3 01/11/22 01:51 74-87-3 ug/kg 1 2-Chlorotoluene ND ug/kg 7.3 01/11/22 01:51 95-49-8 4-Chlorotoluene ND ug/kg 7.3 1 01/11/22 01:51 106-43-4 Dibromochloromethane ND ug/kg 7.3 01/11/22 01:51 124-48-1 1 1,2-Dibromoethane (EDB) ND 7.3 01/11/22 01:51 106-93-4 ug/kg 1 ND 7.3 01/11/22 01:51 74-95-3 Dibromomethane ug/kg 1 1,2-Dichlorobenzene ND 7.3 01/11/22 01:51 95-50-1 ug/kg 1 1,3-Dichlorobenzene ND 7.3 01/11/22 01:51 541-73-1 ug/kg 1 1,4-Dichlorobenzene ND 7.3 01/11/22 01:51 106-46-7 ug/kg 1 trans-1,4-Dichloro-2-butene ND ug/kg 146 1 01/11/22 01:51 110-57-6 Dichlorodifluoromethane ND ug/kg 7.3 1 01/11/22 01:51 75-71-8 1,1-Dichloroethane ND 7.3 01/11/22 01:51 75-34-3 ug/kg



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: A53sed Lab ID: 50306629002 Collected: 01/06/22 15:30 Received: 01/07/22 12:35 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826					<u> </u>	
	Pace Analytica							
1,2-Dichloroethane	ND	ug/kg	7.3	1		01/11/22 01:51	107-06-2	
1,1-Dichloroethene	ND	ug/kg	7.3	1		01/11/22 01:51		
cis-1,2-Dichloroethene	ND	ug/kg	7.3	1		01/11/22 01:51		
trans-1,2-Dichloroethene	ND	ug/kg	7.3	1		01/11/22 01:51		
1,2-Dichloropropane	ND	ug/kg	7.3	1		01/11/22 01:51		
1,3-Dichloropropane	ND	ug/kg	7.3	1		01/11/22 01:51		
2,2-Dichloropropane	ND	ug/kg	7.3	1		01/11/22 01:51		
1,1-Dichloropropene	ND	ug/kg ug/kg	7.3	1		01/11/22 01:51		
sis-1,3-Dichloropropene	ND ND	ug/kg ug/kg	7.3	1		01/11/22 01:51		
rans-1,3-Dichloropropene	ND ND	ug/kg ug/kg	7.3	1		01/11/22 01:51		
• •	ND ND		7.3	1		01/11/22 01:51		
Ethylbenzene		ug/kg						
Ethyl methacrylate	ND	ug/kg	146	1		01/11/22 01:51 01/11/22 01:51		
Hexachloro-1,3-butadiene	ND	ug/kg	7.3	1				
n-Hexane	ND	ug/kg	7.3	1		01/11/22 01:51		
2-Hexanone	ND	ug/kg	146	1		01/11/22 01:51		
odomethane	ND	ug/kg	146	1		01/11/22 01:51		
sopropylbenzene (Cumene)	ND	ug/kg	7.3	1		01/11/22 01:51		
-Isopropyltoluene	ND	ug/kg	7.3	1		01/11/22 01:51		
Methylene Chloride	ND	ug/kg	29.1	1		01/11/22 01:51		
-Methylnaphthalene	ND	ug/kg	14.6	1		01/11/22 01:51		
-Methylnaphthalene	ND	ug/kg	14.6	1		01/11/22 01:51		
-Methyl-2-pentanone (MIBK)	ND	ug/kg	36.4	1		01/11/22 01:51		
Methyl-tert-butyl ether	ND	ug/kg	7.3	1		01/11/22 01:51	1634-04-4	
laphthalene	ND	ug/kg	7.3	1		01/11/22 01:51		
n-Propylbenzene	ND	ug/kg	7.3	1		01/11/22 01:51	103-65-1	
Styrene	ND	ug/kg	7.3	1		01/11/22 01:51	100-42-5	
,1,1,2-Tetrachloroethane	ND	ug/kg	7.3	1		01/11/22 01:51	630-20-6	
,1,2,2-Tetrachloroethane	ND	ug/kg	7.3	1		01/11/22 01:51	79-34-5	
etrachloroethene	ND	ug/kg	7.3	1		01/11/22 01:51	127-18-4	
oluene	ND	ug/kg	7.3	1		01/11/22 01:51	108-88-3	
,2,3-Trichlorobenzene	ND	ug/kg	7.3	1		01/11/22 01:51	87-61-6	
,2,4-Trichlorobenzene	ND	ug/kg	7.3	1		01/11/22 01:51	120-82-1	
,1,1-Trichloroethane	ND	ug/kg	7.3	1		01/11/22 01:51	71-55-6	
,1,2-Trichloroethane	ND	ug/kg	7.3	1		01/11/22 01:51	79-00-5	
richloroethene	ND	ug/kg	7.3	1		01/11/22 01:51		
richlorofluoromethane	ND	ug/kg	7.3	1		01/11/22 01:51	75-69-4	
,2,3-Trichloropropane	ND	ug/kg	7.3	1		01/11/22 01:51	96-18-4	
,2,4-Trimethylbenzene	ND	ug/kg	7.3	1		01/11/22 01:51		
,3,5-Trimethylbenzene	ND	ug/kg	7.3	1		01/11/22 01:51		
/inyl acetate	ND	ug/kg	146	1		01/11/22 01:51		
/inyl chloride	ND	ug/kg	7.3	1		01/11/22 01:51		
(ylene (Total)	ND	ug/kg	14.6	1		01/11/22 01:51		
Surrogates	.,,,	~g/ \\g	14.0	•		5.711/ <b>22</b> 51.01		
Dibromofluoromethane (S)	101	%.	73-132	1		01/11/22 01:51	1868-53-7	
oluene-d8 (S)	117	%.	66-148	1		01/11/22 01:51		



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: A53sed	Lab ID: 5030	06629002	Collected: 01/06/2	2 15:30	Received: 0	1/07/22 12:35 M	latrix: Solid	
Results reported on a "dry weig	ht" basis and are adj	usted for pe	rcent moisture, sa	mple si	ze and any dilu	ıtions.		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
	Pace Analytica	l Services - I	ndianapolis					
Surrogates								
4-Bromofluorobenzene (S)	83	%.	40-149	1		01/11/22 01:51	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	)G					
	Pace Analytica	l Services - I	ndianapolis					
Percent Moisture	38.8	%	0.10	1		01/08/22 08:56		N2



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: A54	Lab ID: 5030	6629003	Collected: 01/06/2	22 16:00	Received: 01	/07/22 12:35 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	010 Preparation Met	nod: EP/	A 3010			
	Pace Analytical	Services -	Indianapolis					
Arsenic	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7440-38-2	
Barium	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7440-39-3	
Cadmium	ND	ug/L	2.0	1	01/10/22 10:22	01/11/22 12:05	7440-43-9	
Chromium	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7440-47-3	
Lead	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7439-92-1	
Lithium	ND	ug/L	20.0	1	01/10/22 10:22	01/11/22 12:05	7439-93-2	
Selenium	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7782-49-2	
Silver	ND	ug/L	10.0	1	01/10/22 10:22	01/11/22 12:05	7440-22-4	
7470 Mercury	Analytical Meth	od: EPA 74	70 Preparation Met	nod: EP/	A 7470			
-	Pace Analytical	Services -	Indianapolis					
Mercury	ND	ug/L	2.0	1	01/14/22 06:55	01/14/22 12:34	7439-97-6	



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: Trip Blank	Lab ID: 503	06629004	Collected: 01/06/2	22 08:00	Received:	01/07/22 12:35	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV Indiana	Analytical Met	hod: EPA 50	030/8260					
	Pace Analytica	al Services -	Indianapolis					
Acetone	ND	ug/L	100	1		01/11/22 16:30	6 67-64-1	L1
Acrolein	ND	ug/L	50.0	1		01/11/22 16:30		
Acrylonitrile	ND	ug/L	100	1		01/11/22 16:30		
Benzene	ND	ug/L	5.0	1		01/11/22 16:30		
Bromobenzene	ND	ug/L	5.0	1		01/11/22 16:30		
Bromochloromethane	ND	ug/L	5.0	1		01/11/22 16:30	6 74-97-5	
Bromodichloromethane	ND	ug/L	5.0	1		01/11/22 16:30		
Bromoform	ND	ug/L	5.0	1		01/11/22 16:30	6 75-25-2	
Bromomethane	ND	ug/L	5.0	1		01/11/22 16:30	6 74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	1		01/11/22 16:30	6 78-93-3	
n-Butylbenzene	ND	ug/L	5.0	1		01/11/22 16:30		
sec-Butylbenzene	ND	ug/L	5.0	1		01/11/22 16:30		
tert-Butylbenzene	ND	ug/L	5.0	1		01/11/22 16:30	6 98-06-6	
Carbon disulfide	ND	ug/L	10.0	1		01/11/22 16:30		
Carbon tetrachloride	ND	ug/L	5.0	1		01/11/22 16:30		
Chlorobenzene	ND	ug/L	5.0	1		01/11/22 16:30		
Chloroethane	ND	ug/L	5.0	1		01/11/22 16:30	5 75-00-3	
Chloroform	ND	ug/L	5.0	1		01/11/22 16:30	6 67-66-3	
Chloromethane	ND	ug/L	5.0	1		01/11/22 16:30		
2-Chlorotoluene	ND	ug/L	5.0	1		01/11/22 16:30		
4-Chlorotoluene	ND	ug/L	5.0	1		01/11/22 16:30		
Dibromochloromethane	ND	ug/L	5.0	1		01/11/22 16:30		
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		01/11/22 16:30		
Dibromomethane	ND	ug/L	5.0	1		01/11/22 16:30		
1,2-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 16:30		
1,3-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 16:30		
1,4-Dichlorobenzene	ND	ug/L	5.0	1		01/11/22 16:30		
rans-1,4-Dichloro-2-butene	ND	ug/L	100	1		01/11/22 16:30		
Dichlorodifluoromethane	ND	ug/L	5.0	1		01/11/22 16:30		
1,1-Dichloroethane	ND	ug/L	5.0	1		01/11/22 16:30		
1.2-Dichloroethane	ND	ug/L	5.0	1		01/11/22 16:30		
1,1-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:30		
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:30	6 156-59-2	
rans-1,2-Dichloroethene	ND	ug/L	5.0	1		01/11/22 16:30	5 156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:30		
1,3-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:30		
2,2-Dichloropropane	ND	ug/L	5.0	1		01/11/22 16:30		
1,1-Dichloropropene	ND	ug/L	5.0	1		01/11/22 16:30		
cis-1,3-Dichloropropene	ND	ug/L	5.0	1			6 10061-01-5	
rans-1,3-Dichloropropene	ND	ug/L	5.0	1			5 10061-01-6	
Ethylbenzene	ND	ug/L	5.0	1		01/11/22 16:30		
Ethyl methacrylate	ND ND	ug/L ug/L	100	1		01/11/22 16:30		
Hexachloro-1,3-butadiene	ND	ug/L ug/L	5.0	1		01/11/22 16:30		
n-Hexane	ND ND	ug/L ug/L	5.0	1		01/11/22 16:30		
2-Hexanone	ND ND	ug/L ug/L	25.0	1		01/11/22 16:30		
z-nexanone lodomethane	ND ND	ug/L ug/L	25.0 10.0	1		01/11/22 16:30		



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Sample: Trip Blank	Lab ID: 5030	6629004	Collected: 01/06/2	22 08:00	Received: 01/07/22 12:35 Matrix: Water
Parameters	Results	Units	Report Limit	DF	Prepared Analyzed CAS No. Qua
8260 MSV Indiana	Analytical Meth	od: EPA 50	030/8260		
	Pace Analytical	Services -	Indianapolis		
Isopropylbenzene (Cumene)	ND	ug/L	5.0	1	01/11/22 16:36 98-82-8
p-Isopropyltoluene	ND	ug/L	5.0	1	01/11/22 16:36 99-87-6
Methylene Chloride	ND	ug/L	5.0	1	01/11/22 16:36 75-09-2
1-Methylnaphthalene	ND	ug/L	10.0	1	01/11/22 16:36 90-12-0
2-Methylnaphthalene	ND	ug/L	10.0	1	01/11/22 16:36 91-57-6
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1	01/11/22 16:36 108-10-1
Methyl-tert-butyl ether	ND	ug/L	4.0	1	01/11/22 16:36 1634-04-4
Naphthalene	ND	ug/L	1.2	1	01/11/22 16:36 91-20-3
n-Propylbenzene	ND	ug/L	5.0	1	01/11/22 16:36 103-65-1
Styrene	ND	ug/L	5.0	1	01/11/22 16:36 100-42-5
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1	01/11/22 16:36 630-20-6
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	01/11/22 16:36 79-34-5
Tetrachloroethene	ND	ug/L	5.0	1	01/11/22 16:36 127-18-4
Toluene	ND	ug/L	5.0	1	01/11/22 16:36 108-88-3
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1	01/11/22 16:36 87-61-6
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	01/11/22 16:36 120-82-1
1,1,1-Trichloroethane	ND	ug/L	5.0	1	01/11/22 16:36 71-55-6
1,1,2-Trichloroethane	ND	ug/L	5.0	1	01/11/22 16:36 79-00-5
Trichloroethene	ND	ug/L	5.0	1	01/11/22 16:36 79-01-6
Trichlorofluoromethane	ND	ug/L	5.0	1	01/11/22 16:36 75-69-4
1,2,3-Trichloropropane	ND	ug/L	5.0	1	01/11/22 16:36 96-18-4
1,2,4-Trimethylbenzene	ND	ug/L	5.0	1	01/11/22 16:36 95-63-6
1,3,5-Trimethylbenzene	ND	ug/L	5.0	1	01/11/22 16:36 108-67-8
Vinyl acetate	ND	ug/L	50.0	1	01/11/22 16:36 108-05-4
Vinyl chloride	ND	ug/L	2.0	1	01/11/22 16:36 75-01-4
Xylene (Total)	ND	ug/L	10.0	1	01/11/22 16:36 1330-20-7
Surrogates		-			
Dibromofluoromethane (S)	103	%.	78-120	1	01/11/22 16:36 1868-53-7
4-Bromofluorobenzene (S)	104	%.	78-117	1	01/11/22 16:36 460-00-4
Toluene-d8 (S)	102	%.	77-118	1	01/11/22 16:36 2037-26-5



Project:

M20023 Muncie Phase II

Pace Project No.:

50306629

QC Batch: QC Batch Method:

METHOD BLANK:

658512

EPA 7470

Analysis Method:

EPA 7470

Analysis Description:

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50306629001, 50306629003

Matrix: Water

Associated Lab Samples:

50306629001, 50306629003

Blank

Reporting Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

2.0 01/14/22 12:11

LABORATORY CONTROL SAMPLE: 3034139

Parameter

Parameter

Spike Conc.

Result

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Date: 01/17/2022 01:53 PM

Units ug/L

5.2

3034141

MS

104 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3034140

MSD

50306625001 Parameter Units Result

MS Spike

MSD Result

5.0

MS % Rec

MSD % Rec

% Rec Limits

Max RPD

Mercury

ND ug/L

Conc. 5 Spike Conc. 5

Result 5.0

99

98 75-125

**RPD** 

Qual 20 0

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**REPORT OF LABORATORY ANALYSIS** 

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Project:

M20023 Muncie Phase II

Pace Project No.:

50306629

QC Batch:

658134

QC Batch Method:

EPA 7471

Analysis Method:

EPA 7471

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: METHOD BLANK:

Matrix: Solid

Associated Lab Samples:

50306629002

Parameter

50306629002

Blank Result Reporting

Limit

Qualifiers

Mercury

Units mg/kg

ND

0.19 01/13/22 08:58

Analyzed

104

LABORATORY CONTROL SAMPLE:

3032523

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Parameter Mercury

Date: 01/17/2022 01:53 PM

Units mg/kg

0.52

0.54

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3032524

MSD

MSD

MS

MSD

106

% Rec

Max

50306619001 Parameter Units Result

mg/kg

ND

Spike Conc. 0.66

MS Result

Result 0.74 % Rec 103

Limits **RPD** 

RPD

Mercury

MS Spike Conc.

0.66

0.72

3032525

% Rec

75-125

Qual 20 2

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

QC Batch: 658130 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306629002

METHOD BLANK: 3032509 Matrix: Solid

Associated Lab Samples: 50306629002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND ND	0.92	01/13/22 10:40	
Barium	mg/kg	ND	0.92	01/13/22 10:40	
Cadmium	mg/kg	ND	0.46	01/13/22 10:40	
Chromium	mg/kg	ND	0.92	01/13/22 10:40	
Lead	mg/kg	ND	0.92	01/13/22 10:40	
Lithium	mg/kg	ND	4.6	01/13/22 10:40	N2
Selenium	mg/kg	ND	0.92	01/13/22 10:40	
Silver	mg/kg	ND	0.46	01/13/22 10:40	

LABORATORY CONTROL SAMPLE:	3032510	
		_

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	45.2	44.7	99	80-120	
Barium	mg/kg	45.2	44.0	97	80-120	
Cadmium	mg/kg	45.2	43.1	95	80-120	
Chromium	mg/kg	45.2	46.4	103	80-120	
Lead	mg/kg	45.2	42.2	93	80-120	
Lithium	mg/kg	45.2	44.9	99	80-120 N	2
Selenium	mg/kg	45.2	43.4	96	80-120	
Silver	mg/kg	22.6	21.3	94	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3032	511		3032512							
	5	0306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	3.4	74.7	74.9	74.9	73.6	96	94	75-125	2	20	
Barium	mg/kg	85.4	74.7	74.9	160	166	100	107	75-125	3	20	
Cadmium	mg/kg	ND	74.7	74.9	67.9	67.1	91	89	75-125	1	20	
Chromium	mg/kg	9.3	74.7	74.9	77.5	78.3	91	92	75-125	1	20	
Lead	mg/kg	40.8	74.7	74.9	96.3	99.1	74	78	75-125	3	20	MO
Lithium	mg/kg	9.0	74.7	74.9	80.5	80.1	96	95	75-125	0	20	N2
Selenium	mg/kg	ND	74.7	74.9	67.4	66.1	90	88	75-125	2	20	
Silver	mg/kg	ND	37.3	37.5	34.0	33.5	91	90	75-125	1	20	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3032			3032514							
			MS	MSD								
	5	0306619001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	7.3	61.9	56.4	63.6	53.9	91	83	75-125	16	20	
Barium	mg/kg	90.8	61.9	56.4	165	154	120	112	75-125	7	20	
Cadmium	mg/kg	ND	61.9	56.4	54.9	45.9	88	81	75-125	18	20	
Chromium	mg/kg	16.2	61.9	56.4	77.1	64.3	98	85	75-125	18	20	
Lead	mg/kg	19.7	61.9	56.4	69.7	60.0	81	72	75-125	15	20	M0
Lithium	mg/kg	9.8	61.9	56.4	70.3	58.9	98	87	75-125	18	20	N2
Selenium	mg/kg	ND	61.9	56.4	54.5	45.3	88	80	75-125	18	20	
Silver	mg/kg	ND	31	28.1	26.7	22.6	86	80	75-125	17	20	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

LABORATORY CONTROL SAMPLE:

Date: 01/17/2022 01:53 PM

QC Batch: 658009 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306629001, 50306629003

METHOD BLANK: 3032099 Matrix: Water

3032100

Associated Lab Samples: 50306629001, 50306629003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	01/11/22 11:26	
Barium	ug/L	ND	10.0	01/11/22 11:26	
Cadmium	ug/L	ND	2.0	01/11/22 11:26	
Chromium	ug/L	ND	10.0	01/11/22 11:26	
Lead	ug/L	ND	10.0	01/11/22 11:26	
Lithium	ug/L	ND	20.0	01/11/22 11:26	
Selenium	ug/L	ND	10.0	01/11/22 11:26	
Silver	ug/L	ND	10.0	01/11/22 11:26	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1000	1040	104	80-120	
Barium	ug/L	1000	1040	104	80-120	
Cadmium	ug/L	1000	998	100	80-120	

Chromium ug/L 1000 1030 103 80-120 Lead ug/L 1000 970 97 80-120 Lithium ug/L 1000 1040 104 80-120 Selenium 1000 80-120 ug/L 1010 101 Silver 500 483 97 80-120 ug/L

MATRIX SPIKE & MATRIX	SPIKE DUPL	ICATE: 3032	101		3032102							
Parameter	Units	50306625001 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	1000	1000	1110	1100	111	110	75-125	0	20	
Barium	ug/L	155	1000	1000	1260	1260	110	110	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	1040	1040	104	104	75-125	0	20	
Chromium	ug/L	ND	1000	1000	1060	1060	106	105	75-125	1	20	
Lead	ug/L	ND	1000	1000	979	982	98	98	75-125	0	20	
Lithium	ug/L	ND	1000	1000	1080	1090	107	108	75-125	1	20	
Selenium	ug/L	ND	1000	1000	1060	1060	105	106	75-125	0	20	
Silver	ug/L	ND	500	500	508	504	102	101	75-125	1	20	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

QC Batch: 658149 Analysis Method: EPA 5030/8260
QC Batch Method: EPA 5030/8260 Analysis Description: 8260 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306629001, 50306629004

METHOD BLANK: 3032569 Matrix: Water

Associated Lab Samples: 50306629001, 50306629004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,1-Trichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1,2-Trichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
1,1-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
1,2,3-Trichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2,3-Trichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichloroethane	ug/L	ND	5.0	01/11/22 09:26	
1,2-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	01/11/22 09:26	
1,3-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1,3-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
1,4-Dichlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
1-Methylnaphthalene	ug/L	ND	10.0	01/11/22 09:26	
2,2-Dichloropropane	ug/L	ND	5.0	01/11/22 09:26	
2-Butanone (MEK)	ug/L	ND	25.0	01/11/22 09:26	
2-Chlorotoluene	ug/L	ND	5.0	01/11/22 09:26	
2-Hexanone	ug/L	ND	25.0	01/11/22 09:26	
2-Methylnaphthalene	ug/L	ND	10.0	01/11/22 09:26	
4-Chlorotoluene	ug/L	ND	5.0	01/11/22 09:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25.0	01/11/22 09:26	
Acetone	ug/L	ND	100	01/11/22 09:26	
Acrolein	ug/L	ND	50.0	01/11/22 09:26	
Acrylonitrile	ug/L	ND	100	01/11/22 09:26	
Benzene	ug/L	ND	5.0	01/11/22 09:26	
Bromobenzene	ug/L	ND	5.0	01/11/22 09:26	
Bromochloromethane	ug/L	ND	5.0	01/11/22 09:26	
Bromodichloromethane	ug/L	ND	5.0	01/11/22 09:26	
Bromoform	ug/L	ND	5.0	01/11/22 09:26	
Bromomethane	ug/L	ND	5.0	01/11/22 09:26	
Carbon disulfide	ug/L	ND	10.0	01/11/22 09:26	
Carbon tetrachloride	ug/L	ND	5.0	01/11/22 09:26	
Chlorobenzene	ug/L	ND	5.0	01/11/22 09:26	
Chloroethane	ug/L	ND	5.0	01/11/22 09:26	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

METHOD BLANK: 3032569 Matrix: Water

Associated Lab Samples: 50306629001, 50306629004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloroform		ND	5.0	01/11/22 09:26	
Chloromethane	ug/L	ND	5.0	01/11/22 09:26	
cis-1,2-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
cis-1,3-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
Dibromochloromethane	ug/L	ND	5.0	01/11/22 09:26	
Dibromomethane	ug/L	ND	5.0	01/11/22 09:26	
Dichlorodifluoromethane	ug/L	ND	5.0	01/11/22 09:26	
thyl methacrylate	ug/L	ND	100	01/11/22 09:26	
thylbenzene	ug/L	ND	5.0	01/11/22 09:26	
exachloro-1,3-butadiene	ug/L	ND	5.0	01/11/22 09:26	
odomethane	ug/L	ND	10.0	01/11/22 09:26	
sopropylbenzene (Cumene)	ug/L	ND	5.0	01/11/22 09:26	
lethyl-tert-butyl ether	ug/L	ND	4.0	01/11/22 09:26	
lethylene Chloride	ug/L	ND	5.0	01/11/22 09:26	
Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
Hexane	ug/L	ND	5.0	01/11/22 09:26	
Propylbenzene	ug/L	ND	5.0	01/11/22 09:26	
aphthalene	ug/L	ND	1.2	01/11/22 09:26	
Isopropyltoluene	ug/L	ND	5.0	01/11/22 09:26	
c-Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
yrene	ug/L	ND	5.0	01/11/22 09:26	
rt-Butylbenzene	ug/L	ND	5.0	01/11/22 09:26	
trachloroethene	ug/L	ND	5.0	01/11/22 09:26	
oluene	ug/L	ND	5.0	01/11/22 09:26	
ans-1,2-Dichloroethene	ug/L	ND	5.0	01/11/22 09:26	
ans-1,3-Dichloropropene	ug/L	ND	5.0	01/11/22 09:26	
ans-1,4-Dichloro-2-butene	ug/L	ND	100	01/11/22 09:26	
richloroethene	ug/L	ND	5.0	01/11/22 09:26	
richlorofluoromethane	ug/L	ND	5.0	01/11/22 09:26	
inyl acetate	ug/L	ND	50.0	01/11/22 09:26	
nyl chloride	ug/L	ND	2.0	01/11/22 09:26	
ylene (Total)	ug/L	ND	10.0	01/11/22 09:26	
Bromofluorobenzene (S)	%.	105	78-117	01/11/22 09:26	
ibromofluoromethane (S)	%.	101	78-120	01/11/22 09:26	
oluene-d8 (S)	%.	102	77-118	01/11/22 09:26	

LABORATORY CONTROL SAMPLE:	3032570					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.3	101	76-125	_
1,1,1-Trichloroethane	ug/L	50	52.9	106	73-132	
1,1,2,2-Tetrachloroethane	ug/L	50	56.3	113	65-131	
1,1,2-Trichloroethane	ug/L	50	53.3	107	74-127	
1,1-Dichloroethane	ug/L	50	54.7	109	73-133	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

LABORATORY CONTROL SAMPLE:	3032570	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethene	ug/L		58.7	117	67-136	
I,1-Dichloropropene	ug/L	50	60.7	121	72-128	
1,2,3-Trichlorobenzene	ug/L	50	45.4	91	58-136	
,2,3-Trichloropropane	ug/L	50	49.9	100	69-126	
1,2,4-Trichlorobenzene	ug/L	50	46.5	93	48-149	
1,2,4-Trimethylbenzene	ug/L	50	52.0	104	68-122	
,2-Dibromoethane (EDB)	ug/L	50	50.4	101	76-126	
,2-Dichlorobenzene	ug/L	50	50.4	101	75-114	
,2-Dichloroethane	ug/L	50	54.8	110	69-135	
,2-Dichloropropane	ug/L	50	54.8	110	78-134	
,3,5-Trimethylbenzene	ug/L	50	51.6	103	68-120	
,3-Dichlorobenzene	ug/L	50	49.6	99	70-119	
,3-Dichloropropane	ug/L	50	53.1	106	70-119 74-131	
			49.2	98	69-117	
,4-Dichlorobenzene	ug/L	50 50	49.2 49.4	98 99	68-139	
-Methylnaphthalene	ug/L	50 50				
2,2-Dichloropropane	ug/L		54.5	109	61-127	
2-Butanone (MEK)	ug/L	250	315	126	56-164	
-Chlorotoluene	ug/L	50	51.5	103	74-115	
-Hexanone	ug/L	250	315	126	63-137	
-Methylnaphthalene	ug/L	50	51.6	103	62-129	
-Chlorotoluene	ug/L	50	51.1	102	74-115	
-Methyl-2-pentanone (MIBK)	ug/L	250	310	124	64-134	
cetone	ug/L	250	361	145	46-140 L1	
crolein	ug/L	1000	984	98	53-126	
crylonitrile	ug/L	250	287	115	68-132	
Benzene	ug/L	50	52.4	105	77-128	
Bromobenzene	ug/L	50	54.5	109	62-133	
Bromochloromethane	ug/L	50	58.3	117	71-124	
Bromodichloromethane	ug/L	50	53.9	108	70-124	
romoform	ug/L	50	45.7	91	65-116	
Bromomethane	ug/L	50	56.5	113	10-200	
Carbon disulfide	ug/L	50	52.0	104	70-131	
Carbon tetrachloride	ug/L	50	54.4	109	61-139	
Chlorobenzene	ug/L	50	49.8	100	76-124	
Chloroethane	ug/L	50	59.2	118	56-142	
Chloroform	ug/L	50	53.0	106	77-120	
Chloromethane	ug/L	50	52.7	105	29-141	
is-1,2-Dichloroethene	ug/L	50	52.1	104	72-127	
is-1,3-Dichloropropene	ug/L	50	53.9	108	71-131	
Dibromochloromethane	ug/L	50	49.6	99	69-132	
Dibromomethane	ug/L	50	52.4	105	76-130	
Dichlorodifluoromethane	ug/L	50	43.3	87	23-139	
thyl methacrylate	ug/L	50	56J	112	66-128	
Ithylbenzene	ug/L	50	50.7	101	76-119	
lexachloro-1,3-butadiene	ug/L	50	47.9	96	58-140	
odomethane	ug/L	50	48.7	97	10-200	
sopropylbenzene (Cumene)	ug/L	50	52.2	104	77-128	

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.



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

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ABORATORY CONTROL SAMPLE:	3032570					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
ethyl-tert-butyl ether	ug/L	50	56.0	112	75-129	
hylene Chloride	ug/L	50	55.3	111	72-129	
utylbenzene	ug/L	50	54.5	109	59-128	
exane	ug/L	50	57.1	114	75-141	
opylbenzene	ug/L	50	52.7	105	71-116	
hthalene	ug/L	50	48.9	98	67-136	
opropyltoluene	ug/L	50	51.5	103	67-123	
Butylbenzene	ug/L	50	53.8	108	70-119	
ene	ug/L	50	51.9	104	66-123	
Butylbenzene	ug/L	50	51.6	103	54-133	
achloroethene	ug/L	50	47.3	95	70-124	
ene	ug/L	50	50.0	100	72-117	
s-1,2-Dichloroethene	ug/L	50	52.2	104	75-133	
s-1,3-Dichloropropene	ug/L	50	53.4	107	75-111	
-1,4-Dichloro-2-butene	ug/L	50	63.4J	127	39-147	
nloroethene	ug/L	50	51.4	103	75-130	
nlorofluoromethane	ug/L	50	52.7	105	63-162	
/l acetate	ug/L	200	187	93	42-139	
l chloride	ug/L	50	55.0	110	51-140	
ne (Total)	ug/L	150	148	99	73-117	
omofluorobenzene (S)	%.			103	78-117	
omofluoromethane (S)	%.			100	78-120	
ene-d8 (S)	%.			100	77-118	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 3032	571		3032572							
			MS	MSD								
	5	0306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	51.8	50.6	104	101	40-147	2	20	
1,1,1-Trichloroethane	ug/L	ND	50	50	53.5	53.5	107	107	53-161	0	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	55.0	54.0	110	108	58-134	2	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	53.9	54.0	108	108	60-141	0	20	
1,1-Dichloroethane	ug/L	ND	50	50	57.7	57.3	115	115	67-140	1	20	
1,1-Dichloroethene	ug/L	ND	50	50	62.1	59.7	124	119	59-154	4	20	
1,1-Dichloropropene	ug/L	ND	50	50	60.6	61.0	121	122	31-153	1	20	
1,2,3-Trichlorobenzene	ug/L	ND	50	50	42.8	41.5	86	83	10-151	3	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	50.8	49.8	102	100	63-140	2	20	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	42.0	39.5	84	79	10-156	6	20	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	50.6	49.9	101	100	11-145	1	20	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	52.1	51.0	104	102	54-144	2	20	
1,2-Dichlorobenzene	ug/L	ND	50	50	49.7	48.4	99	97	17-145	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	57.0	56.7	114	113	66-130	1	20	
1,2-Dichloropropane	ug/L	ND	50	50	56.6	56.4	113	113	65-136	0	20	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	51.3	50.0	103	100	11-143	2	20	
1,3-Dichlorobenzene	ug/L	ND	50	50	47.1	45.7	94	91	10-146	3	20	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

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MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	ATE: 3032			3032572							
			MS	MSD								
	50	0306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qu
1,3-Dichloropropane	ug/L	ND	50	50	55.3	54.5	111	109	53-145	1	20	
1,4-Dichlorobenzene	ug/L	ND	50	50	47.0	45.3	94	91	17-141	4	20	
1-Methylnaphthalene	ug/L	ND	50	50	46.7	45.1	93	90	28-147	3	20	
2,2-Dichloropropane	ug/L	ND	50	50	53.6	53.7	107	107	35-142	0	20	
2-Butanone (MEK)	ug/L	ND	250	250	314	309	126	124	49-173	2	20	
2-Chlorotoluene	ug/L	ND	50	50	51.2	49.9	102	100	10-148	3	20	
2-Hexanone	ug/L	ND	250	250	311	308	124	123	57-142	1	20	
2-Methylnaphthalene	ug/L	ND	50	50	47.5	45.4	95	91	15-141	5	20	
1-Chlorotoluene	ug/L	ND	50	50	50.2	48.8	100	98	11-142	3	20	
1-Methyl-2-pentanone MIBK)	ug/L	ND	250	250	310	306	124	123	59-139	1	20	
Acetone	ug/L	ND	250	250	394	379	157	152	44-171	4	20	
Acrolein	ug/L	ND	1000	1000	980	958	98	96	25-131	2	20	
Acrylonitrile	ug/L	ND	250	250	286	286	114	114	60-145	0	20	
Benzene	ug/L	ND	50	50	53.5	53.8	107	108	69-128	1	20	
Bromobenzene	ug/L	ND	50	50	55.7	53.3	111	107	10-157	5	20	
Bromochloromethane	ug/L	ND	50	50	63.3	63.2	127	126	58-138	0	20	
Bromodichloromethane	ug/L	ND	50	50	54.8	55.1	110	110	51-138	0	20	
Bromoform	ug/L	ND	50	50	45.5	44.1	91	88	43-130	3	20	
Bromomethane	ug/L	ND	50	50	62.0	59.5	124	119	10-195	4	20	
Carbon disulfide	ug/L	ND	50	50	55.7	54.4	111	109	37-149	2		
Carbon tetrachloride	ug/L	ND	50	50	54.7	55.4	109	111	39-155	1	20	
Chlorobenzene	ug/L	ND	50	50	50.4	50.0	101	100	28-147	1	20	
Chloroethane	ug/L	ND	50	50	66.4	65.4	133	131	58-158	2		
Chloroform	ug/L	ND	50	50	54.3	54.0	109	108	54-141	1	20	
Chloromethane	ug/L	ND	50	50	57.0	57.2	114	114	41-145	0		
cis-1,2-Dichloroethene	ug/L	ND	50	50	52.7	53.2	105	106	45-150	1	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	54.1	53.9	108	108	42-139	0		
Dibromochloromethane	ug/L	ND	50	50	51.1	50.1	102	100	48-139	2		
Dibromomethane	ug/L	ND	50	50	52.9	52.8	106	106	58-140	0		
Dichlorodifluoromethane	ug/L	ND	50	50	43.2	43.3	86	87	45-161	0		
Ethyl methacrylate	ug/L	ND	50	50	56.2J	55.2J	112	110	63-149	O	20	
Ethylbenzene	ug/L	ND	50	50	50.5	49.7	101	99	36-144	2		
Hexachloro-1,3-butadiene	ug/L	ND	50	50	43.7	41.8	87	84	10-164	4		
odomethane	ug/L ug/L	ND	50	50	51.7	52.5	103	105	10-104	2		
sopropylbenzene Cumene)	ug/L	ND	50	50	52.8	51.7	106	103	21-148	2		
Methyl-tert-butyl ether	ug/L	ND	50	50	57.2	56.8	114	114	72-135	1	20	
Methylene Chloride	ug/L	ND	50	50	54.4	53.4	109	107	58-136	2		
n-Butylbenzene	ug/L	ND	50	50	51.5	49.5	103	99	10-147	4		
n-Hexane	ug/L	ND	50	50	57.2	58.1	114	116	52-157	2		
n-Propylbenzene	ug/L	ND	50	50	52.2	50.3	104	101	11-141	4		
Naphthalene	ug/L	ND	50	50	46.8	44.8	94	90	45-134	4		
o-Isopropyltoluene	ug/L	ND	50	50	50.5	48.6	101	97	10-149	4		
sec-Butylbenzene	ug/L	ND	50	50	53.2	51.7	106	103	10-148	3		
Styrene	ug/L	ND	50	50	53.3	51.6	107	103	19-143	3		

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

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MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 3032	571 MS	MSD	3032572							
		50306625001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
tert-Butylbenzene	ug/L	ND	50	50	50.2	49.9	100	100	14-123	0	20	
Tetrachloroethene	ug/L	ND	50	50	46.9	46.7	94	93	26-148	1	20	
Toluene	ug/L	ND	50	50	50.9	50.9	101	101	46-134	0	20	
trans-1,2-Dichloroethene	ug/L	ND	50	50	52.5	52.0	105	104	43-155	1	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	54.8	53.0	110	106	39-132	3	20	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	61.5J	60.6J	123	121	18-143		20	
Trichloroethene	ug/L	ND	50	50	51.0	51.7	102	103	35-151	1	20	
Trichlorofluoromethane	ug/L	ND	50	50	55.0	54.3	110	109	55-170	1	20	
Vinyl acetate	ug/L	ND	200	200	176	173	88	87	24-134	2	20	
Vinyl chloride	ug/L	ND	50	50	57.6	57.2	115	114	59-146	1	20	
Xylene (Total)	ug/L	ND	150	150	151	148	101	99	32-140	2	20	
4-Bromofluorobenzene (S)	%.						106	104	78-117			
Dibromofluoromethane (S)	%.						101	102	78-120			
Toluene-d8 (S)	%.						101	99	77-118			

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

QC Batch: 658080 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306629002

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306629002

7.0000iatou 2ab Gampioo. 300000	J23002	<b>5.</b> .			
_		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,1-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1,2-Trichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
1,1-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,3-Trichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloroethane	ug/kg	ND	5.0	01/10/22 19:46	
1,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1,3-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
1,4-Dichlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
1-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
2,2-Dichloropropane	ug/kg	ND	5.0	01/10/22 19:46	
2-Butanone (MEK)	ug/kg	ND	25.0	01/10/22 19:46	
2-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
2-Hexanone	ug/kg	ND	100	01/10/22 19:46	
2-Methylnaphthalene	ug/kg	ND	10.0	01/10/22 19:46	
4-Chlorotoluene	ug/kg	ND	5.0	01/10/22 19:46	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	25.0	01/10/22 19:46	
Acetone	ug/kg	ND	100	01/10/22 19:46	
Acrolein	ug/kg	ND	100	01/10/22 19:46	
Acrylonitrile	ug/kg	ND	100	01/10/22 19:46	
Benzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Bromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromodichloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Bromoform	ug/kg	ND	5.0	01/10/22 19:46	
Bromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Carbon disulfide	ug/kg	ND	10.0	01/10/22 19:46	
Carbon tetrachloride	ug/kg	ND	5.0	01/10/22 19:46	
Chlorobenzene	ug/kg	ND	5.0	01/10/22 19:46	
Chloroethane	ug/kg	ND	5.0	01/10/22 19:46	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

METHOD BLANK: 3032291 Matrix: Solid

Associated Lab Samples: 50306629002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloroform	ug/kg	ND	5.0	01/10/22 19:46	
Chloromethane	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
Dibromochloromethane	ug/kg	ND	5.0	01/10/22 19:46	
Dibromomethane	ug/kg	ND	5.0	01/10/22 19:46	
Dichlorodifluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
Ethyl methacrylate	ug/kg	ND	100	01/10/22 19:46	
Ethylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	01/10/22 19:46	
Iodomethane	ug/kg	ND	100	01/10/22 19:46	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	01/10/22 19:46	
Methyl-tert-butyl ether	ug/kg	ND	5.0	01/10/22 19:46	
Methylene Chloride	ug/kg	ND	20.0	01/10/22 19:46	
n-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
n-Hexane	ug/kg	ND	5.0	01/10/22 19:46	
n-Propylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Naphthalene	ug/kg	ND	5.0	01/10/22 19:46	
p-Isopropyltoluene	ug/kg	ND	5.0	01/10/22 19:46	
sec-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Styrene	ug/kg	ND	5.0	01/10/22 19:46	
tert-Butylbenzene	ug/kg	ND	5.0	01/10/22 19:46	
Tetrachloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Toluene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	01/10/22 19:46	
trans-1,4-Dichloro-2-butene	ug/kg	ND	100	01/10/22 19:46	
Trichloroethene	ug/kg	ND	5.0	01/10/22 19:46	
Trichlorofluoromethane	ug/kg	ND	5.0	01/10/22 19:46	
Vinyl acetate	ug/kg	ND	100	01/10/22 19:46	
Vinyl chloride	ug/kg	ND	5.0	01/10/22 19:46	
Xylene (Total)	ug/kg	ND	10.0	01/10/22 19:46	
4-Bromofluorobenzene (S)	%.	97	40-149	01/10/22 19:46	
Dibromofluoromethane (S)	%.	101	73-132	01/10/22 19:46	
Toluene-d8 (S)	%.	96	66-148	01/10/22 19:46	

LABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	50	43.6	87	68-129	
1,1,2,2-Tetrachloroethane	ug/kg	50	44.1	88	67-137	
1,1-Dichloroethene	ug/kg	50	46.8	94	53-135	
1,2,4-Trimethylbenzene	ug/kg	50	44.1	88	61-125	
1,2-Dibromoethane (EDB)	ug/kg	50	48.7	97	68-125	

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Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

ABORATORY CONTROL SAMPLE:	3032292					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
I,2-Dichloroethane	ug/kg	50	45.9	92	69-128	
1,2-Dichloropropane	ug/kg	50	45.7	91	70-130	
Senzene	ug/kg	50	45.9	92	69-125	
hlorobenzene	ug/kg	50	44.6	89	66-121	
hloroform	ug/kg	50	44.2	88	66-123	
s-1,2-Dichloroethene	ug/kg	50	44.5	89	67-122	
thylbenzene	ug/kg	50	46.0	92	57-126	
opropylbenzene (Cumene)	ug/kg	50	46.8	94	62-132	
ethyl-tert-butyl ether	ug/kg	50	47.0	94	66-136	
aphthalene	ug/kg	50	44.4	89	59-131	
trachloroethene	ug/kg	50	44.9	90	61-123	
uene	ug/kg	50	45.8	92	67-128	
ns-1,2-Dichloroethene	ug/kg	50	42.6	85	61-127	
chloroethene	ug/kg	50	44.6	89	64-122	
nyl chloride	ug/kg	50	41.4	83	42-148	
rlene (Total)	ug/kg	150	149	100	62-126	
Bromofluorobenzene (S)	%.			102	40-149	
promofluoromethane (S)	%.			99	73-132	
luene-d8 (S)	%.			98	66-148	

MATRIX SPIKE & MATRIX SP	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032293						·	·	·			
			MS	MSD								
	50	0306616001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/kg	ND	133	100	133	103	99	103	38-149	25	20	R1
1,1,2,2-Tetrachloroethane	ug/kg	ND	133	100	147	111	110	111	19-169	28	20	R1
1,1-Dichloroethene	ug/kg	ND	133	100	153	121	115	121	24-162	23	20	R1
1,2,4-Trimethylbenzene	ug/kg	ND	133	100	137	97.3	103	97	10-169	34	20	R1
1,2-Dibromoethane (EDB)	ug/kg	ND	133	100	130	89.7	98	90	19-153	37	20	R1
1,2-Dichloroethane	ug/kg	ND	133	100	134	98.6	100	99	32-146	30	20	R1
1,2-Dichloropropane	ug/kg	ND	133	100	129	99.1	97	99	39-141	26	20	R1
Benzene	ug/kg	ND	133	100	136	102	102	102	35-140	28	20	R1
Chlorobenzene	ug/kg	ND	133	100	120	80.5	90	80	16-142	40	20	R1
Chloroform	ug/kg	ND	133	100	133	102	100	102	30-146	27	20	R1
cis-1,2-Dichloroethene	ug/kg	ND	133	100	133	101	100	101	30-145	28	20	R1
Ethylbenzene	ug/kg	ND	133	100	131	88.5	98	88	10-150	38	20	R1
Isopropylbenzene (Cumene)	ug/kg	ND	133	100	131	91.6	99	92	10-153	36	20	R1
Methyl-tert-butyl ether	ug/kg	ND	133	100	138	106	104	106	45-153	26	20	R1
Naphthalene	ug/kg	ND	133	100	87.0	53.3	65	53	10-130	48	20	R1
Tetrachloroethene	ug/kg	ND	133	100	138	105	104	105	10-179	28	20	R1
Toluene	ug/kg	ND	133	100	139	98.1	104	98	20-158	34	20	R1
trans-1,2-Dichloroethene	ug/kg	ND	133	100	128	100	96	100	24-149	25	20	R1
Trichloroethene	ug/kg	ND	133	100	122	93.2	91	93	10-168	26	20	R1
Vinyl chloride	ug/kg	ND	133	100	136	105	102	105	10-165	26	20	R1

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.



Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

MATRIX SPIKE & MATRIX SP	PIKE DUPL	ICATE: 3032	293		3032294							
		50306616001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Xylene (Total)	ug/kg	ND	400	300	415	284	104	95	10-152	38	20	RS
4-Bromofluorobenzene (S)	%.						96	89	40-149			
Dibromofluoromethane (S)	%.						97	96	73-132			
Toluene-d8 (S)	%.						107	108	66-148			

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.



Project:

M20023 Muncie Phase II

Pace Project No.:

50306629

QC Batch:

QC Batch Method:

657974

SM 2540G

Analysis Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50306629002

SAMPLE DUPLICATE: 3031995

50306616001 Result

Dup Result

RPD RPD

Qualifiers

Percent Moisture

Percent Moisture

Units %

42.7

47.6

5 N2,R1 11

Max

SAMPLE DUPLICATE: 3031996

Parameter

50306619001 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Date: 01/17/2022 01:53 PM

Parameter

Units %

22.5

22.8

2

5 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.



#### **QUALIFIERS**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

#### **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**

Date: 01/17/2022 01:53 PM

Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated
samples may be hiased high

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.

R1 RPD value was outside control limits.

RS The RPD value in one of the constituent analytes was outside the control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20023 Muncie Phase II

Pace Project No.: 50306629

Date: 01/17/2022 01:53 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50306629002	A53sed	EPA 3050	658130	EPA 6010	658450
50306629001	SW-3	EPA 3010	658009	EPA 6010	658163
50306629003	A54	EPA 3010	658009	EPA 6010	658163
50306629001	SW-3	EPA 7470	658512	EPA 7470	658586
50306629003	A54	EPA 7470	658512	EPA 7470	658586
50306629002	A53sed	EPA 7471	658134	EPA 7471	658401
50306629001	SW-3	EPA 5030/8260	658149		
50306629004	Trip Blank	EPA 5030/8260	658149		
50306629002	A53sed	EPA 8260	658080		
50306629002	A53sed	SM 2540G	657974		

/	Pace Analytical	

# **CHAIN-OF-CUSTODY Analytical Request Document**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and

WO#:50306629 

order Number or

					MENT - Compl					I.S.		Ш	щ		ш	ш				
Company: Mundell and Associa	Associates, Inc.  Billing Information:  Ave. Indianapolis. IN 46219  110 S Downey Ave. Indianapolis. IN 46219											SE ONLY								
Address: 110 S Downey Ave, In	dianapolis, IN 4621	19	1105	Downey A	ve, Indianap	oolis, IN 462	19					Co	ntainer	Preserva	tive T	vpe **		Tr.	ab Project Manager:	
Report To: Luke Johnstone			Email To:	(Tabe - t			12			U	1		6/U/O						an indiagent	
cave touristone				Ljonnstone	@mundella	issociates.c	om			4									id, (4) sodium hydroxide, (5) zinc ac	
Сору То:			Site Colle	ction Info/A		224 30				(6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulf (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) OtherDI water										ite,
					th Ditch	Muncie, I				.,,		,		Analyse	_			_	ab Profile/Line:	
Customer Project Name/Number M20032 Muncie Phase II	er:			County/Cit Muncie		e Zone Coll T [ ]MT [		Y ICT										L	ab Sample Receipt Checkl	
Phone: 317-630-9060	Site/Facility II	D #:	1	Moneic	1	ce Monitori		A JE I		7				10	1				ustody Seals Present/Int ustody Signatures Presen	
Email: Ljohnstone@mundellass	ociates.com				[ ] Yes	[ ] No				-							5	C	ollector Signature Prese	nt Y N N/
Collected By (print):	Purchase Ord	ler # :			DW PWS	D #:			1	60108									ottles Intact ' orrect Bottles	YNN
Luke Johnstone	Quote #:				DW Locat				(9)	A 60							4		ufficient Volume	YNN
Collected By (signature)	Turnaround D	Date Requir	red:		[x] Yes	ely Packed	on Ice:		ss (0	S EPA							1 X		amples Received on Ice OA - Headspace Acceptabl	e YNN
Sample Disposati	Rush: (Exped	lite Charge	(ylqqA		+	red (if appli	cable):		Glass	n via	E	19							SDA Regulated Soils	Y N NA Y N NA
x ] Dispose as appropriate	[ ]Same I				[ ] Yes	[ ] No			ō	hiur	Lithium						- 1		amples in Holding Time esidual Chlorine Present	
] Return	[ ] 2 Day				100				Plastic (P)	=======================================	=	99	0				1		l Strips: ample pH Acceptable	Y N NA
] Archive: ] Hold:	[ ]4 Day	[ ] 5 Day			Analysis:			_	asti	Sies	tals	18260	EPA8260					pi	H Strips:	
Matrix Codes (Insert in Matrix	box below): Drinki	ing Water	(DW), Groui	nd Water (G	W), Waster	water (WW	),		0	Metals	Metals	EPA	EP/	801					ulfide Present ead Acetate Strips:	Y N N
Product (P), Soil/Solid (SL), Oil	(OL), Wipe (WP), A	Air (AR), Tis	sue (TS), Bio	bassay (B), \	Vapor (V), O	ther (OT)			Typ	00	A 8	list	VOC's full list					- 10		
	.500.7	Comp/		cted (or	Compo	osite End	Res	# of	ner	RCRA	RCRA	linj s	s ful	133			1		AB USE ONLY: ab Sample # / Comments:	
ustomer Sample ID	Matrix *	Grab		site Start)	1	-	CI	Ctns	Container	Total	Total	VOC's	00							
			Date	Time	Date	Time			_	F		1	>					- 1	Se scur	
SW-3	W	Grab	1/6	15:45				4	G/P	(65)	X	X		1				1	001	
A53sed	SL	Grab	1/6	15:30				5	G	X			Х		1				202	
A54	W	Grab	1/6	16:00				1	Р	LEW	Х								03	1 - 6
Trip Blank	w							3	G			X (H	CL + D	water pr	eserv	atives)		C	200	
												1								
										18.7				- 1	130		-7			
										100		(45T)								
										15										
Customer Remarks / Special Co	nditions / Possible	Hazards:	Type of Ic	e Used:	Wet	Blue	Dry	None	-	17.	SHOP	RT HO	LDS PR	ESENT (<	72 hou	urs): Y	N	N/A	LAB Sample Temperature In	nfo:
Total RCRA 8 Metals + Lithiu	m		Packing N	laterial Use	d:						Lab T	rackir	ng #:		-				Temp Blank Received: Therm ID#: 4	YNI
VOC full list						de ali	110												Cooler 1 Temp Upon Re	ceipt: 44
13 1 1 1			Radcham	eamplatel e	creened (<5	00 com):	v 1	I NA		-	10000		eceived	STATE OF THE PARTY					Cooler 1 Therm Corr. Cooler 1 Corrected Te	Factor O
			Rauchem	sample(s) s	creened (	oo cping.		14/4			FEI	DEX	UPS	Client	t Co	urier F	ace Cou	urier	Comments:	mp. Wo
Relinquished by Company Sig	nature) ( L	// Dat	e/Time:	11.0	Received b	y/Company	y: (Signa	ture)	01	1	[	Date		1)		_	LAB USE	ONLY		
mi/no	(Mule)		117	22	0		_	_	170	_			7/22	-	-	able #:				
Relinquished by/Company: (Sig	nature)	Dat	e/Time!	1235	Received b	y/Company	y: (Signa	ture)				Date/	lime:			emplate			Trip Blank Received: HCL MeOH TSP	
Link	~ Yhe	_   )	17/2	_	K	lun	un	1				W	22	12:3	-	empiate relogin:	9		HCL MECH TSP	Other
Relinquished by/Company: (Sig	nature)	Dat	e/Time:		Received b	y/Company	y: (Signa	ture)			1	Date/	Time:		-	M:			Non Conformance(s): P	age:
					10000		2 V E)				-		14.7		- 10	B:	-	-	YES / NO O	f
															- 10		-2000	0-000		Page 32

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents:  1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC			122  5:2)	/		
1. Couner:   FED EX   UPS   CLIENT   M PAC	E U	JSPS [	5. Packing Material: Bubble Wrap	<b>▼</b> Bubble	e Bags	
2. Custody Seal on Cooler/Box Present:  Yes	No No		□None	☐ Other		_
(If yes)Seals Intact:	if no seals	were prese	int)			
3. Thermometer: 123 4)56 ABCDEF			6. Ice Type:   ✓ Wet □ Blue □ None			
4. Cooler Temperature: 4.4 /4.2  Temp should be above freezing to 6°C (Initial/Corrected)	-		7. If temp. is over 6°C or under 0°C, was the PM	notified?:	☐ Yes	□ No
All c	discrepand	ies 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)	,	1	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	,		
Short Hold Time Analysis (48 hours or less)? Analysis:	1		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: 15	:54	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	V	Residual Chlorine Check (Total/Amenable/Free Cyanide)			V/
Custody Signatures Present?	<b>√</b>		Headspace Wisconsin Sulfide?	Process	About	No VOA Vlais Sent
Containers Intact?:	1,		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	NO VOA VISIS SEIN
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1/		Trip Blank Present?	1		
Extra labels on Terracore Vials? (soils only)	<b>V</b>		Trip Blank Custody Seals?:	~		
COMMENTS:						

SBS	
OF-	
MeOH	
(only)	
(BIN)	

\*\* Place a RED dot on containers

that are out or comornance	t	hat	are	out of	conformance	e ••
----------------------------	---	-----	-----	--------	-------------	------

		Kit																											COMON	
COC Line Item	WGFU		DG9H	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1		11	3	- "												ń.			1								WT	1		1
2							-														10 1					1 4				
3	1	4																									SL	1		1
4																			1		- 1						WT	1		
5			3																1								1			
6																														1
7																									-					
8																														
9																														
10																						4								
11																														
12			W.				1																							

Container Codes

	Gla	SS				Plas	tic	/ Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125n	nL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	_	1L HNO3 plastic	BP4N	125n	nL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCI Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125n	nL 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	Syring	e Kit	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	_	1L HCl amber glass	BP2N	500mL HNO3 plastic	122		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air F	ilter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air (	Cassettes
I	40mL w/hexane wipe vial	AG1U	1 liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terr	racore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120	mL Coliform Na Thiosulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	Sun	nma Can
JGFU	4oz unpreserved amber wide	AG2U			250mL HNO3 plastic	ZPLC	Zipk	oc Bag
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL		Solid
	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	OL	Non-aqueous liquid Oil
		_				MP		Wine

# **APPENDIX A3**

# APRIL 2022 LABORATORY CERTIFICATES OF ANALYSIS AND CHAINS OF CUSTODY







April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
50313437001	DW-1	Drinking Water	04/06/22 10:15	04/08/22 12:50	



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313437001	DW-1	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313437001	DW-1					
EPA 200.8 EPA 200.8	Barium Lead	164 5.0	ug/L ug/L	1.0 1.0	04/19/22 06:32 04/19/22 06:32	



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Date: 04/21/2022 10:53 AM

Sample: DW-1	Lab ID: 503	13437001	Collected: 04/06/2	22 10:15	Received: 04	/08/22 12:50 N	//atrix: Drinkino	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Metl	nod: EPA 20	0.8 Preparation Met	hod: EP	A 200.8			
	Pace Analytica	al Services -	Indianapolis					
Arsenic	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:32	7440-38-2	N2
Barium	164	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:32	7440-39-3	N2
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00	04/19/22 06:32	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 06:32	7440-47-3	N2
Lead	5.0	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:32	7439-92-1	N2
Selenium	ND	ug/L	2.0	1		04/19/22 06:32		N2
Silver	ND	ug/L	0.50	1		04/19/22 06:32		N2
245.1 Mercury	Analytical Metl	hod: EPA 24	5.1 Preparation Met	hod: EP	A 245.1			
<b>,</b>	Pace Analytica		·					
Mercury	ND	ug/L	0.20	1	04/19/22 09:38	04/19/22 18:52	7439-97-6	
524.2 MSV	Analytical Metl	•	4.2					
724.2 IVIO V	Pace Analytica							
Benzene	ND		0.50	1		04/13/22 07:49	71 /2 2	N2
Bromobenzene		ug/L		1				
	ND	ug/L	0.50			04/13/22 07:49		N2
Bromodichloromethane	ND	ug/L	1.0	1		04/13/22 07:49		N2
Bromoform	ND	ug/L	1.0	1		04/13/22 07:49		N2
Bromomethane	ND	ug/L	5.0	1		04/13/22 07:49		N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 07:49		N2
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 07:49		N2
Chloroethane	ND	ug/L	0.50	1		04/13/22 07:49		N2
Chloroform	ND	ug/L	1.0	1		04/13/22 07:49		N2
Chloromethane	ND	ug/L	1.0	1		04/13/22 07:49		N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 07:49		N2
4-Chlorotoluene	ND	ug/L	0.50	1		04/13/22 07:49		N2
Dibromochloromethane	ND	ug/L	1.0	1		04/13/22 07:49		N2
Dibromomethane	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,2-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,3-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,4-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,1-Dichloroethane	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 07:49		N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:49	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:49	156-59-2	N2
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:49	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:49	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:49	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:49	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 07:49	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 07:49	10061-01-5	N2
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 07:49	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 07:49		N2
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 07:49		N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 07:49		N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

Sample: DW-1	Lab ID: 503	Lab ID: 50313437001		22 10:15	Received: 04/08/22 12:50 I		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Meth	od: EPA 524	4.2					
	Pace Analytica	l Services -	Indianapolis					
Styrene	ND	ug/L	0.50	1		04/13/22 07:49	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 07:49	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 07:49	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 07:49	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/13/22 07:49	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:49	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 07:49	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 07:49	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/13/22 07:49	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 07:49	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 07:49	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 07:49	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 07:49	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/13/22 07:49	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	93	%.	70-130	1		04/13/22 07:49	460-00-4	
Dibromofluoromethane (S)	93	%.	70-130	1		04/13/22 07:49	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 07:49	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50313437

QC Batch:

671367

QC Batch Method: EPA 245.1 Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313437001

METHOD BLANK:

Mercury

Mercury

Mercury

Matrix: Water

Associated Lab Samples: 50313437001

Parameter

Blank Units Result Reporting Limit

Analyzed Qualifiers

ND 0.20 04/19/22 18:45

LABORATORY CONTROL SAMPLE:

3091673

Spike

LCS Result

LCS % Rec % Rec Limits

Mercury

Parameter

Units ug/L

50313512004

Result

<0.000085

mg/L

ug/L

Conc.

5.6

3091675

Result

5.5

113

85-115

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091674

MS

Spike

Conc.

5

MSD Spike

Conc.

MS

5

MSD Result

MS % Rec

111

MSD

110

109

% Rec

% Rec Max Limits

**RPD** RPD Qual

20

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:53 AM

Parameter

3091676

Units

ug/L

Parameter

50313512015 Units Result <0.000085 mg/L ug/L

Spike Conc. 5

MS Result

5.5

5.5

MS % Rec

% Rec Limits

70-130

70-130

Qualifiers

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

QC Batch: 671085 QC Batch Method: EPA 200.8 Analysis Method: EPA 200.8
Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313437001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313437001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

X SPIKE & MATRIX S	
	Max
Parameter	RPD Qual
	20 N2
	20 N2
ım	20 N2
um	20 N2
	20 N2
m	20 N2
	20 N2
m	

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3090	-		3090230							
	E	50313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

QC Batch: 670792 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313437001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313437001

		Blank Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313437001

Danasatan	11.26	Blank	Reporting	A b d	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130 N2
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130 N2
1,1-Dichloroethane	ug/L	20	19.2	96	70-130 N2
1,1-Dichloroethene	ug/L	20	22.6	113	70-130 N2
1,1-Dichloropropene	ug/L	20	22.0	110	70-130 N2
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130 N2
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130 N2
1,2-Dichloroethane	ug/L	20	19.6	98	70-130 N2
1,2-Dichloropropane	ug/L	20	20.3	102	70-130 N2
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130 N2
1,3-Dichloropropane	ug/L	20	22.3	112	70-130 N2
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130 N2
2,2-Dichloropropane	ug/L	20	16.4	82	70-130 N2
2-Chlorotoluene	ug/L	20	22.2	111	70-130 N2
4-Chlorotoluene	ug/L	20	23.1	116	70-130 N2
Benzene	ug/L	20	19.9	100	70-130 N2
Bromobenzene	ug/L	20	21.1	105	70-130 N2
Bromodichloromethane	ug/L	20	21.1	105	70-130 N2
Bromoform	ug/L	20	23.7	118	70-130 N2
Bromomethane	ug/L	20	15.5	78	70-130 N2
Carbon tetrachloride	ug/L	20	21.6	108	70-130 N2
Chlorobenzene	ug/L	20	22.5	113	70-130 N2
Chloroethane	ug/L	20	18.8	94	70-130 N2
Chloroform	ug/L	20	18.3	92	70-130 N2
Chloromethane	ug/L	20	17.3	86	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130 N2
Dibromochloromethane	ug/L	20	22.9	114	70-130 N2
Dibromomethane	ug/L	20	21.5	107	70-130 N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

ABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		22.1	110	70-130	N2
&p-Xylene	ug/L	40	44.8	112	70-130	N2
hyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
hylene Chloride	ug/L	20	18.7	94	70-130	N2
ylene	ug/L	20	22.3	112	70-130	N2
ene	ug/L	20	22.7	113	70-130	N2
achloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
l chloride	ug/L	20	16.8	84	70-130	N2
ne (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
omofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND		23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

SAMPLE DUPLICATE: 3088896						
		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Benzene	ug/L	ND	ND		20	N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
sis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
sis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
n&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
- etrachloroethene	ug/L	ND	ND		20	) N2
- oluene	ug/L	ND	ND		20	) N2
rans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
rans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
richloroethene	ug/L	ND	ND		20	) N2
/inyl chloride	ug/L	ND	ND		20	) N2
(ylene (Total)	ug/L	ND	ND		20	) N2
I-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
oluene-d8 (S)	%.	106	105			

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

#### **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**

Date: 04/21/2022 10:53 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313437

Date: 04/21/2022 10:53 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313437001	DW-1	EPA 200.8	671085	EPA 200.8	671359
50313437001	DW-1	EPA 245.1	671367	EPA 245.1	671892
50313437001	DW-1	EPA 524.2	670792		

0	
Pace An	alytical

# CHAIN-OF-CUSTODY Analytical Request Document

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

				ALCOHOL VICE	
ALL	ROID	OUTLINE	ARFAS are	forIAR	LISE ONLY

Company: Mundell and Associat	es, Inc.		Billing Infor	Information:						ALL BOLD OUTLINED AREAS are for LAB USE ONLY										
Address: 110 S Downey Ave, Ind	ianapolis, IN 4621	.9	11051	Downey Av	e, Indianap	olis, IN 462	19					Cor	tainer	Preser	vative	Type *			Lab Project Manager:	
			Consil To:	Car Cry	- TO TO 100					1	3	8	0			100				(SIII F)
Report To: Luke Johnstone			Email 10: [	johnstone	@mundella	ssociates.co	om			** Pres	ervativ	е Туре	s: (1) nit	ric acid	, (2) su	furic aci	d, (3) hyd	Irochlori	ic acid, (4) sodium hydroxide, (5) zinc acetate,	
Сору То:			Site Collect	ion Info/A	ddress:							2.0							e, (A) ascorbic acid, (B) ammonium sulfate,	
COPY 13.						Muncie,	ndiana			(C) ami	monium	n hydro	oxide, (D	_	_	reserved	, (O) Oth	erDI	AND DESCRIPTION OF THE PARTY OF	_
Customer Project Name/Number	*		State: C	ounty/City	: Tim	e Zone Colle	ected:			_	-		_	Analy	rses				Lab Profile/Line: Lab Sample Receipt Checklist:	
M20032 Muncie Phase II			IN / 1	Muncie	[ ]P	T [ ]MT [	JCT [	XJET		(B)					- 1	- 3			Custody Seals Present/Intact Y N	NA
Phone: 317-630-9060	Site/Facility ID	)#:			Complian	e Monitori	ng?					1000						V)	Custody Signatures Present Y N	400-00-0
Email: Ljohnstone@mundellasso	ciates.com				[ ] Yes	[ ] No				7			- 1	1	- 1	+			Collector Signature Present Y N Bottles Intact Y N	and the same of th
Collected By (print): Luke Johnstone	Purchase Orde	er#:			DW PWS I					200.8 (and 245.1 for				(1)			1		Correct Bottles Y N Sufficient Volume Y N	NA
Collected By (signature):	Turnaround D	ate Require	ed:		Immediat	ely Packed	on Ice:		(9)	(an	- 1		- 1	25-71	- 1			10	Samples Received on Ice Y N	200
Sal 1/					[x] Yes	[ ] No			Glass	8,0	- 1	No.			- 1		100		VOA - Headspace Acceptable Y N USDA Regulated Soils Y N	
Sample Disposal:	Rush: (Expedi	ite Charges	Apply)		Field Filte	red (if appli	cable):			A 20		531			- 1	13.00	100	10	Samples in Holding Time Y N	
[ x ] Disposé as appropriate	[ ]Same [	Day [ ] N	ext Day		[ ] Yes	[x]No			0 0	EPA	524.2				- 1				Residual Chlorine Present Y N	NA.
[ ]Return	[ ]2 Day								000	S S		9 1			- 1		-	9	Cl Strips:	NA
[ ] Archive:	[ ]4 Day	[ ]5 Day			Analysis:		_	_	Plastic (P)	tals	EPA	Tab.	1,1		- 1	100	130	8	pH Strips:	
* Matrix Codes (Insert in Matrix	box below): Drinki	ing Water (	DW), Ground	Water (G	W), Waster	water (WW)	,			Z	2 2	505	537		- 1				Sulfide Present Y N Lead Acetate Strips:	NA.
Product (P), Soil/Solid (SL), Oil (									Type:	A 8	list	EPA	EPA	200	- 1		133		Lead Acetate Strips:	
		Comp/	Collect	ed (or	C	site End	Res	# of	er	RCRA	2	via E	2	903	- 1			2	LAB USE ONLY:	200
Customer Sample ID	Matrix *	Grab	Composi	te Start)	Compe	isite End	CI	Ctns	Container	Total	voc's	PCB v	PFAS	100	- 1	21/6	18		Lab Sample # / Comments:	100
			Date	Time	Date	Time			So	2	>	9	4			500			see scur	200
DW-1	DW/GW	Grab	4/6/22	10:15	1			4	G/P	X	Х			100		1				100
										1		是		(ST)					All the second s	
														NO.						
	-	-	-			-			-	000		2 - 1			$\dashv$					
	-	-	-		-	-	-		-	200			-		$\rightarrow$					-
							-		-						-	0		-		
					-					3-01		100					- 63		H. Stewart State of the State o	SH
					10							196								
										6-1				100					The state of the s	3/12
														1967		100	00			336
					1						-								Scientific Adams	
Customer Remarks / Special Cor	ditions / Possible	Hazards.	Type of Ice	Linadi	Wet	Blue	Dry	None			SHO	DT HO	I OS DR	ESENT	1/721	hours) :	YN	N/	LAB Sample Temperature Info:	
		TIBERIUS.	District Control		- Janes	Blue	ыү	MOHE		_				LJUN	(412)	iduis).	100	11/2	Temp Blank Received: Y N	NA
VOC full list, Total RCRA 8 Me	etals		Packing Ma	terial Use	d:						Lab	Fracki	ng #:						Therm ID#:	
All sampled via drinking water	er methods							-	-	-	Samu	nles re	ceived	via:		-			Cooler 1 Temp Upon Receipt: Cooler 1 Therm Corr. Factor:	
			Radchem s	ample(s) s	creened (<	500 cpm):	Y	NA NA	5		0.00000	DEX	UPS		ent	Courie	Pace	Courier	Cooler 1 Corrected Temp:	oC
	X	In-t-	Primaria		Described b		. ICiano	tural	_		10000	1		-	-	-	TIL LAB	1300000	Comments:	(E18)
Relinquished by Company: (Sign	nature)	41	*	1115	2	//Company	1	_	Pa	4	$\overline{}$		Time:		L	Table	_	USE ON	see scur	
Relinquished by/Company: (Sign	^		e/Time:	_	Received b	y/Company	: (Signa	ture)	,			Date/		12	2:10				Trip Blank Received: Y N NA	
7, 1	-Dac	4	18/22	1250	18	11.						4-	8-2	2	-	Temp			HCL MeOH TSP Other	8 1
Mary Mary	_		7-	A.	1/ 100	um	nes	_	_		-			_	_	Prelo	gin:		New Confession (1)	900-13
Relinquished by/Company: (Sign	nature/	Date	e/Time:		Received b	y/Company	: (Signa	ture)			1	Date/	ime:			PM: PB:			Non Conformance(s): Page: YES / NO of:	-
																P.O.			Page 18	of 20

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

# Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC  2. Custody Seal on Cooler/Box Present: ☐ Yes	/	SPS [	OTHER	5. Packing Material:	☐ Bubble Wrap ☐ None	✓ Bubble Bags  ☐ Other			
(If yes)Seals Intact: Yes No (leave blank		were pres	ent)	1	Ex .55 .00 .00				
3. Thermometer: 123456 ABC DEF				6. Ice Type: Wet	☐ Blue ☐ None				
4. Cooler Temperature: 0.9/0.7 6.2/0.0 0.3/0. Temp should be above freezing to 6°C (Initial/Corrected)	1			7. If temp. is over 6°C or	under 0°C, was the PM	notified?	: 🗆 Yes	□ No	
All	discrepanc	ies 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)		/	CHECKED?: exce container with a se	ding acid/base pres. Have be options: VOA, coliform, LLHg, optum cap or preserved with H	O&G, and any	/	-		
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Any non-conforman	04 (<2) NaOH (>10) NaOH/Z ce to pH recommendations will b	nAc (>9) e noted on the container	1			
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A	
Rush TAT Requested (4 days or less):	,	/		Check (Total/Amenable/Free				1	
Custody Signatures Present?	/		Headspace Wisco	nsin Sulfide?				/	
Containers Intact?:	1		Headspace in VOA See Containter Co	Vials (>6mm): unt form for details		Present	Absent	No VOA Vials Ser	
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 Custod	y Seals?:				/	
COMMENTS:									

Page 19 of 20

COC	PAGE	of I

# Sample Container Count

\*\* Place a RED dot on containers

that	are	out of	conf	ormance	*

		Kit					: 1		5				110.				v1									that a	ire out of	conform	nance **
COC Line Item	WGFU	R	резн	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1		1	3																1							W7	1		
2																													
3					-		-1																				-		
4																													1
5		1																											
6																													
7																-													
8																													
9																													
10																										1			
11																										1			
12					10																								

Container Codes

	Gla	SS			
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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	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

71	as	tic / Misc.	
	BP4U	125ml unpreserved plastic	

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

LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313431001	DW-2	Drinking Water	04/06/22 10:50	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313431001	DW-2	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313431001	DW-2	_				
EPA 200.8	Barium	185	ug/L	2.0	04/19/22 07:43	N2
EPA 200.8	Cadmium	0.51	ug/L	0.20	04/19/22 05:59	N2
EPA 200.8	Lead	19.9	ug/L	1.0	04/19/22 05:59	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Date: 04/21/2022 10:58 AM

Sample: DW-2	Lab ID: 503	13431001	Collected: 04/06/2	2 10:50	Received: 04	/08/22 12:50 N	//atrix: Drinkino	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Metl	hod: EPA 20	0.8 Preparation Met	hod: EP	A 200.8			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:59	7440-38-2	N2
Barium	185	ug/L	2.0	2	04/15/22 02:00	04/19/22 07:43	7440-39-3	N2
Cadmium	0.51	ug/L	0.20	1	04/15/22 02:00	04/19/22 05:59	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:59	7440-47-3	N2
Lead	19.9	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:59	7439-92-1	N2
Selenium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:59	7782-49-2	N2
Silver	ND	ug/L	0.50	1		04/19/22 05:59		N2
245.1 Mercury	Analytical Meth	nod: EPA 24	5.1 Preparation Met	hod: EP	A 245.1			
•	Pace Analytica	al Services -	Indianapolis					
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:25	7439-97-6	
524.2 MSV	Analytical Meth	nod: EPA 52	4.2					
	Pace Analytica	al Services -	Indianapolis					
Benzene	ND	ug/L	0.50	1		04/13/22 04:49	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	1		04/13/22 04:49	108-86-1	N2
Bromodichloromethane	ND	ug/L	1.0	1		04/13/22 04:49		N2
Bromoform	ND	ug/L	1.0	1		04/13/22 04:49		N2
Bromomethane	ND	ug/L	5.0	1		04/13/22 04:49		N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 04:49		N2
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 04:49		N2
Chloroethane	ND	ug/L	0.50	1		04/13/22 04:49		N2
Chloroform	ND	ug/L	1.0	1		04/13/22 04:49		N2
Chloromethane	ND	ug/L	1.0	1		04/13/22 04:49		N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 04:49		N2
4-Chlorotoluene	ND	ug/L	0.50	1		04/13/22 04:49		N2
Dibromochloromethane	ND	ug/L	1.0	1		04/13/22 04:49	124-48-1	N2
Dibromomethane	ND	ug/L	0.50	1		04/13/22 04:49		N2
1,2-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 04:49	95-50-1	N2
1,3-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 04:49		N2
1,4-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 04:49	106-46-7	N2
1,1-Dichloroethane	ND	ug/L	0.50	1		04/13/22 04:49	75-34-3	N2
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 04:49	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 04:49	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 04:49	156-59-2	N2
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 04:49	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 04:49	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 04:49		N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 04:49		N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 04:49		N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 04:49		N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 04:49		N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 04:49		N2
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 04:49		N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 04:49		N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

Sample: DW-2	Lab ID: 503	Lab ID: 50313431001		2 10:50	Received: 0	04/08/22 12:50 I	Matrix: Drinking Wa	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Meth	nod: EPA 52	24.2					
	Pace Analytica	l Services -	Indianapolis					
Styrene	ND	ug/L	0.50	1		04/13/22 04:49	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 04:49	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 04:49	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 04:49	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/13/22 04:49	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 04:49	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 04:49	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 04:49	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/13/22 04:49	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 04:49	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 04:49	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 04:49	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 04:49	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/13/22 04:49	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/13/22 04:49	460-00-4	
Dibromofluoromethane (S)	95	%.	70-130	1		04/13/22 04:49	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 04:49	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313431

QC Batch:

671366

QC Batch Method: EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313431001

METHOD BLANK:

Matrix: Water

Associated Lab Samples: 50313431001

Blank Result Reporting Limit

Analyzed

111

Qualifiers

Mercury

Mercury

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Units ug/L

Spike Conc. 5

5

85-115

102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

MSD

50313426001 Result

ND

Spike Spike Conc. Conc.

MS Result

5.6

3091669

5.2

MSD Result

MSD % Rec % Rec

103

MS

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Parameter

3091670

Parameter Units

Units

ug/L

50313435001

5

Spike Conc. MS

5.1

MS % Rec % Rec

70-130

Qualifiers

Date: 04/21/2022 10:58 AM

ug/L

Result

ND 5

Result 5.6

111

Limits

70-130

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Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313431001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ua/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	227		3090228							
	5	0313422001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPL	ICATE: 3090	229		3090230							
			MS	MSD								
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	ND	40	40	39.9	39.5	99	98	70-130		20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	CATE: 3090	-	MOD	3090230							
	5	0313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

QC Batch: 670792 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313431001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313431001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313431001

Devenuetes	Haita	Blank	Reporting	A a l a d	O = 1:6: = ==
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130	N2
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130	N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130	N2
1,1-Dichloroethane	ug/L	20	19.2	96	70-130	N2
1,1-Dichloroethene	ug/L	20	22.6	113	70-130	N2
1,1-Dichloropropene	ug/L	20	22.0	110	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130	N2
1,2-Dichloroethane	ug/L	20	19.6	98	70-130	N2
1,2-Dichloropropane	ug/L	20	20.3	102	70-130	N2
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130	N2
1,3-Dichloropropane	ug/L	20	22.3	112	70-130	N2
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130	N2
2,2-Dichloropropane	ug/L	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	20	22.2	111	70-130	N2
4-Chlorotoluene	ug/L	20	23.1	116	70-130	N2
Benzene	ug/L	20	19.9	100	70-130	N2
Bromobenzene	ug/L	20	21.1	105	70-130	N2
Bromodichloromethane	ug/L	20	21.1	105	70-130	N2
Bromoform	ug/L	20	23.7	118	70-130	N2
Bromomethane	ug/L	20	15.5	78	70-130	N2
Carbon tetrachloride	ug/L	20	21.6	108	70-130	N2
Chlorobenzene	ug/L	20	22.5	113	70-130	N2
Chloroethane	ug/L	20	18.8	94	70-130	N2
Chloroform	ug/L	20	18.3	92	70-130	N2
Chloromethane	ug/L	20	17.3	86	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130	N2
Dibromochloromethane	ug/L	20	22.9	114	70-130	N2
Dibromomethane	ug/L	20	21.5	107	70-130	N2

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Pace Project No.: 50313431

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		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
ylbenzene	ug/L		22.1	110	70-130	N2
p-Xylene	ug/L	40	44.8	112	70-130	N2
hyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
hylene Chloride	ug/L	20	18.7	94	70-130	N2
ylene	ug/L	20	22.3	112	70-130	N2
rene	ug/L	20	22.7	113	70-130	N2
achloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
s-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
l chloride	ug/L	20	16.8	84	70-130	N2
ene (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
omofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND		23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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Project: M20032 Muncie Phase II

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Date: 04/21/2022 10:58 AM

		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Benzene	ug/L	ND	ND		20	N2
Bromobenzene	ug/L	ND	ND		20	N2
Bromodichloromethane	ug/L	ND	ND		20	N2
Bromoform	ug/L	ND	ND		20	N2
Bromomethane	ug/L	ND	ND		20	N2
Carbon tetrachloride	ug/L	ND	ND		20	N2
Chlorobenzene	ug/L	ND	ND		20	N2
Chloroethane	ug/L	ND	ND		20	N2
Chloroform	ug/L	ND	ND		20	N2
Chloromethane	ug/L	ND	ND		20	N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	N2
Dibromochloromethane	ug/L	ND	ND		20	N2
Dibromomethane	ug/L	ND	ND		20	N2
Ethylbenzene	ug/L	ND	ND		20	N2
n&p-Xylene	ug/L	ND	ND		20	N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	N2
Methylene Chloride	ug/L	ND	ND		20	N2
o-Xylene	ug/L	ND	ND		20	N2
Styrene	ug/L	ND	ND		20	N2
Tetrachloroethene	ug/L	ND	ND		20	N2
Toluene Toluene	ug/L	ND	ND		20	N2
rans-1,2-Dichloroethene	ug/L	ND	ND		20	N2
rans-1,3-Dichloropropene	ug/L	ND	ND		20	N2
Trichloroethene	ug/L	ND	ND		20	N2
/inyl chloride	ug/L	ND	ND		20	N2
(ylene (Total)	ug/L	ND	ND		20	N2
I-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

#### **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**

Date: 04/21/2022 10:58 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313431

Date: 04/21/2022 10:58 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313431001	DW-2	EPA 200.8	671085	EPA 200.8	671359
50313431001	DW-2	EPA 245.1	671366	EPA 245.1	671891
50313431001	DW-2	EPA 524.2	670792		

Pace Analytical*	Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields									LABI	JSE ON	LY- Affix	Work									
Company: Mundell and Assoc	ciates, Inc.		Billing Infor	mation:							-	-	ALL E	BOLD	OUT	INE	DAR	EAS a	are for LAB USE ONLY			
Address: 110 S Downey Ave,	Indianapolis, IN 4621	9	110 S Downey Ave, Indianapolis, IN 46219							Container Preservative Type **									Lab Project Manager:			
Report To: Luke Johnstone			Email To: Ljohnstone@mundellassociates.com							1 ** Pre		8 ve Type	0 s: (1) ni	tric acid, (	2) sulfur	ic acid	(3) hydr	ochloric :	acid, (4) sodium hydroxide, (5) zinc acetate.			
Сору То:			Isite Collection Into/Address:							(6) me	thanol	(7) soc	fium bis	ulfate, (8) O) TSP, (U)	sodium Unpres	thiosu	lfate, (9)	hexane, rDI wa	(A) ascorbic acid, (B) ammonium sulfate, ater			
Customer Project Name/Num M20032 Muncie Phase II			County/Cit	•	e Zone Coll		XIET	1	Hg)				Analys	es		18		Lab Sample Receipt Checklist:				
Phone: 317-630-9060	Site/Facility IC	#:			_	e Monitori									1							
Email: Ljohnstone@mundella:	ssociates.com				[ ] Yes	[]No				1 for		108				2	115		Lab Profile/Line:  Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N Custody Signatures Present Y N Collector Signature Present Y N Bottles Intact Y N Correct Bottles Y N Sufficient Volume Y N Samples Received on Ice Y N USDA Regulated Soils Y N Samples in Holding Time Y N Residual Chlorine Present Y N Cl Strips: Sample PH Acceptable Y N PH Strips:			
Collected By (print):	er#;			DW PWS	D #:			1	245.1	A I				3-		1		THE STATE OF THE S				
Luke Johnstone				DW Locati				-	P		3		1			1						
Collected By (signature):	ate Requir	ed:		[x] Yes	ely Packed [ ] No	on Ice:		Glass (G)	200.8 (and					6			1	VOA - Headspace Acceptable Y N NA				
Sample Disposal:	ite Charges	Apply)		Field Filte	red (if appli	cable):			A 20	7 ×	0 30			ix acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, lifate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (8) ammonium sulfate, TSP, (U) Unpreserved, (O) Other _DI water								
[ x ] Dispose as appropriate	Day [ ] N	lext Day		[ ] Yes	[x]No			0	EPA	524.2			0.0			100						
[ ] Return	[ ] 3 Day							CP	S.	152				20		100						
[ ] Archive: [ ] Hold:	[ ]5 Day	y Analysis:								EPA	- 1	7	238			1						
* Matrix Codes (Insert in Matrix box below): Drinking Wat Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Com			sue (TS), Bioassay (B), Vapor (V), Other (OT)							RA 8 Metals via	VOC's full list via	EPA 505	EPA 537.1						pH Strips: Sulfide Present Y N N Lead Acetate Strips:  LAB USE ONLY: Lab Sample # / Comments:			
					Composite End Res # of CI Ctns				I RCRA	's ful	- ×	S via	-	300	9							
Customer Sample ID	Matrix *	Grab	b Composite St Date Ti		Date	Time		Ctns	Container	Total	9	PCB	PFAS						THE RESERVE OF THE PROPERTY OF			
DW-Z	DW/GW	Grab	4/6/22	10:50				4	G/P	×	Х											
																	10					
Customer Remarks / Special (	Conditions / Possible	Hazarde	T. and of the	Heads	West	Dive	Desi	Name			Isua	DT UC	I DC DD	ECENT /	-77 hav	-	V N	N/A	I AR Sample Temperature Info:			
		11020105.	Type of Ice	WALLS IN	Wet	Blue	Dry	None		-				CZEMI (	12 1100	1121:	T IN	N/A				
VOC full list, Total RCRA 8		Packing Ma	iterial Use	d:			-64			Lab	Tracki	ng#:						The state of the s				
All sampled via drinking w	Radchem s	ample(s) s	creened (<	600 cpm):	Y	N NA				ples re	UPS		nt Co	urier	Pace C	ourier	Cooler 1 Corrected Temp:o					
Relinquished by/Company: (S	Relinquished by/Company: (Signature) Date/1				Received b	y/Company	y: (Signa	eture) p	ac			Date/	Time:	2 11	L T			SE ONLY				
	Relinquished by/Company: (Signature)  Dat  Pau  4			25	Received b	y/Company	y: (Signa	_				Date/ 4-8	Time:		OT				Trip Blank Received: Y N NA HCL MeOH TSP Other			
Relinquished by/Company: (S	Dat	e/Time:		Received b	y/Compan	1 1110								P		Non Conformance(s): Page:						

YES / NO

of: Page 18 of 20

PM: PB:

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

# Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG	CE 🗆 U	ISPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	W Bubbl	le Bags	
2. Custody Seal on Cooler/Box Present:  Yes	No			and the second second	□None	☐ Other		
(If yes)Seals Intact:		were prese	ent)	1				
3. Thermometer: 123456 ABC © EF				6. Ice Type: Wet	☐ Blue ☐ None	)		
4. Cooler Temperature: 6,9/0.7 0.2/6.0 0.3/0.7  Temp should be above freezing to 6°C (Initial/Corrected)	1_			7. If temp. is over 6°C or 1	under 0°C, was the PM	I notified?	: 🗆 Yes	□ No
All	discrepanc	ies 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)		1	CHECKED?: exce container with a se	ding acid/base pres. Have be options: VOA, coliform, LLHg, optum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Any non-conforman	04 (<2) NaOH (>10) NaOH/Z ce to pH recommendations will b	nAc (>9) e noted on the container	1		2.1
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	/	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?	/		Headspace Wisco	nsin Sulfide?				
Containers Intact?:	1		Headspace in VOA See Containter Co	Vials (>6mm): unt form for details		Present	Absent	No VOA Vials Se
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 Custod	y Seals?:				/
COMMENTS:								

COC	PAGE	1 of 1
CUC	PAGE	OI !

# **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that	are out	of	con	formance	*

		Kit																								tha	it are	out of	conform	ance **
COC Line	WGFU		H690 3	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	вьзв	BP3Z	ССВЗН	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3													117			1	- 11						W	17	/		
2																										4	1			
3					1																					_	1			
4																						Ę=,								
5				10 1																						4	4			
6																										_	4			
7			1																							4	1			
8	1																										1			
9																										_	4			
10											-															1	1			
11																														
12				_ 1						9.91						11														

Container Codes

	Gla	SS			
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		AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

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

Syringe Kit	LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313430001	DW-3	Drinking Water	04/06/22 11:26	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313430001	DW-3	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313430001	DW-3					
EPA 200.8 EPA 200.8	Arsenic Barium	2.0 314	ug/L ug/L	1.0 2.0		



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

Sample: DW-3	Lab ID: 5	0313430001	Collected: (	04/06/2	22 11:26	Received: 04	1/08/22 12:50	Matrix: Drinking	g Water
Parameters	Results	Units	Report I	Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical M	lethod: EPA 20	00.8 Preparati	on Me	thod: EP	A 200.8			
	Pace Analyt	ical Services -	Indianapolis						
Arsenic	2.0	ug/L		1.0	1	04/15/22 02:00	04/19/22 05:55	7440-38-2	N2
Barium	314	ug/L		2.0	2	04/15/22 02:00	04/19/22 07:30	7440-39-3	N2
Cadmium	ND	ug/L		0.20	1	04/15/22 02:00	04/19/22 05:55	7440-43-9	N2
Chromium	ND	ug/L		2.0	1	04/15/22 02:00	04/19/22 05:55	7440-47-3	N2
_ead	ND	ug/L		1.0	1	04/15/22 02:00	04/19/22 05:55	7439-92-1	N2
Selenium	ND	ug/L		2.0	1	04/15/22 02:00	04/19/22 05:55	7782-49-2	N2
Silver	ND	ug/L		0.50	1	04/15/22 02:00	04/19/22 05:55	7440-22-4	N2
45.1 Mercury	Analytical M	lethod: EPA 24	15.1 Preparati	on Met	thod: EP	A 245.1			
	Pace Analyt	ical Services -	Indianapolis						
Mercury	ND	ug/L		0.20	1	04/19/22 09:33	04/19/22 18:23	7439-97-6	
524.2 MSV	Analytical M	lethod: EPA 52	24.2						
		ical Services -							
Benzene	ND	ug/L		0.50	1		04/13/22 03:57	71-43-2	N2
Bromobenzene	ND	ug/L		0.50	1		04/13/22 03:57	' 108-86-1	N2
romodichloromethane	ND	ug/L		1.0	1		04/13/22 03:57	75-27-4	N2
Bromoform	ND	ug/L		1.0	1		04/13/22 03:57	75-25-2	N2
Bromomethane	ND	ug/L		5.0	1		04/13/22 03:57	74-83-9	N2
Carbon tetrachloride	ND	ug/L		0.50	1		04/13/22 03:57	56-23-5	N2
Chlorobenzene	ND	ug/L		0.50	1		04/13/22 03:57	108-90-7	N2
Chloroethane	ND	ug/L		0.50	1		04/13/22 03:57	75-00-3	N2
Chloroform	ND	ug/L		1.0	1		04/13/22 03:57	67-66-3	N2
Chloromethane	ND	ug/L		1.0	1		04/13/22 03:57	74-87-3	N2
2-Chlorotoluene	ND	ug/L		1.0	1		04/13/22 03:57	95-49-8	N2
-Chlorotoluene	ND	ug/L		0.50	1		04/13/22 03:57	106-43-4	N2
Dibromochloromethane	ND	ug/L		1.0	1		04/13/22 03:57	124-48-1	N2
Dibromomethane	ND	ug/L		0.50	1		04/13/22 03:57	74-95-3	N2
,2-Dichlorobenzene	ND	ug/L		0.50	1		04/13/22 03:57	95-50-1	N2
,3-Dichlorobenzene	ND	ug/L		0.50	1		04/13/22 03:57	541-73-1	N2
,4-Dichlorobenzene	ND	ug/L		0.50	1		04/13/22 03:57	106-46-7	N2
,1-Dichloroethane	ND	ug/L		0.50	1		04/13/22 03:57	75-34-3	N2
,2-Dichloroethane	ND	ug/L		0.50	1		04/13/22 03:57	107-06-2	N2
,1-Dichloroethene	ND	ug/L		0.50	1		04/13/22 03:57	75-35-4	N2
sis-1,2-Dichloroethene	ND	ug/L		0.50	1		04/13/22 03:57	156-59-2	N2
rans-1,2-Dichloroethene	ND	ug/L		0.50	1		04/13/22 03:57	156-60-5	N2
,2-Dichloropropane	ND	ug/L		0.50	1		04/13/22 03:57	78-87-5	N2
,3-Dichloropropane	ND	ug/L		0.50	1		04/13/22 03:57	142-28-9	N2
2,2-Dichloropropane	ND	ug/L		0.50	1		04/13/22 03:57	594-20-7	N2
,1-Dichloropropene	ND	ug/L		1.0	1		04/13/22 03:57	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L		0.50	1		04/13/22 03:57	10061-01-5	N2
rans-1,3-Dichloropropene	ND	ug/L		0.50	1		04/13/22 03:57	10061-02-6	N2
Ethylbenzene	ND	ug/L		0.50	1		04/13/22 03:57	100-41-4	N2
Methylene Chloride	ND	ug/L		2.5	1		04/13/22 03:57	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L		1.0	1		04/13/22 03:57	1634-04-4	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

Sample: DW-3	Lab ID: 503	13430001	Collected: 04/06/2	2 11:26	Received: 0	4/08/22 12:50	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Meth	nod: EPA 524	1.2					
	Pace Analytica	l Services - I	ndianapolis					
Styrene	ND	ug/L	0.50	1		04/13/22 03:57	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 03:57	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 03:57	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 03:57	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/13/22 03:57	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 03:57	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 03:57	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 03:57	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/13/22 03:57	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 03:57	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 03:57	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 03:57	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 03:57	7 179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/13/22 03:57	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/13/22 03:57	460-00-4	
Dibromofluoromethane (S)	96	%.	70-130	1		04/13/22 03:57	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 03:57	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313430

QC Batch:

671366

QC Batch Method: EPA 245.1 Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313430001

METHOD BLANK:

Matrix: Water

Associated Lab Samples: 50313430001

Parameter

Reporting

Blank Result

Limit

Qualifiers Analyzed

Mercury

Mercury

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE: Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec

MSD

Result

111

% Rec Limits

Mercury

Units ug/L

Result

ug/L

5

5

85-115

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

MSD

50313426001

ND

Spike Spike Conc. Conc.

5

MS Result

5.2

3091669

5.6

MS % Rec

MSD % Rec

102

% Rec Limits

Max **RPD** RPD

20

Qual

Parameter

Parameter

Units

ug/L

50313435001

Spike Conc.

MS Result

5.1

MS % Rec

103

% Rec

70-130

Qualifiers

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:58 AM

3091670

Units Result

ND 5

5.6

111

Limits

70-130

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Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

QC Batch: 671085 Analysis Method: QC Batch Method: EPA 200.8 Analysis Descripti

Analysis Description: 200.8 MET

EPA 200.8

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313430001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	227		3090228							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SF	PIKE DUPLI	ICATE: 3090	229		3090230							
			MS	MSD								
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	 ND	40	40	39.9	39.5	99	98	70-130		20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3090	-		3090230							
	E	50313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

QC Batch: 670792 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313430001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313430001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313430001

Danasatan	11.26	Blank	Reporting	A b d	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130 N2	_
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130 N2	
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2	
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130 N2	
1,1-Dichloroethane	ug/L	20	19.2	96	70-130 N2	
1,1-Dichloroethene	ug/L	20	22.6	113	70-130 N2	
1,1-Dichloropropene	ug/L	20	22.0	110	70-130 N2	
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130 N2	
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130 N2	
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130 N2	
1,2-Dichloroethane	ug/L	20	19.6	98	70-130 N2	
1,2-Dichloropropane	ug/L	20	20.3	102	70-130 N2	
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130 N2	
1,3-Dichloropropane	ug/L	20	22.3	112	70-130 N2	
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130 N2	
2,2-Dichloropropane	ug/L	20	16.4	82	70-130 N2	
2-Chlorotoluene	ug/L	20	22.2	111	70-130 N2	
4-Chlorotoluene	ug/L	20	23.1	116	70-130 N2	
Benzene	ug/L	20	19.9	100	70-130 N2	
Bromobenzene	ug/L	20	21.1	105	70-130 N2	
Bromodichloromethane	ug/L	20	21.1	105	70-130 N2	
Bromoform	ug/L	20	23.7	118	70-130 N2	
Bromomethane	ug/L	20	15.5	78	70-130 N2	
Carbon tetrachloride	ug/L	20	21.6	108	70-130 N2	
Chlorobenzene	ug/L	20	22.5	113	70-130 N2	
Chloroethane	ug/L	20	18.8	94	70-130 N2	
Chloroform	ug/L	20	18.3	92	70-130 N2	
Chloromethane	ug/L	20	17.3	86	70-130 N2	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130 N2	
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130 N2	
Dibromochloromethane	ug/L	20	22.9	114	70-130 N2	
Dibromomethane	ug/L	20	21.5	107	70-130 N2	

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Project: M20032 Muncie Phase II

Pace Project No.: 50313430

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ABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		22.1	110	70-130	N2
&p-Xylene	ug/L	40	44.8	112	70-130	N2
hyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
hylene Chloride	ug/L	20	18.7	94	70-130	N2
ylene	ug/L	20	22.3	112	70-130	N2
ene	ug/L	20	22.7	113	70-130	N2
achloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
l chloride	ug/L	20	16.8	84	70-130	N2
ne (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
omofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

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MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

		50313430001	Dup		Max		
Parameter	Units	Result	Result	RPD	RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND		20	N2	
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2	
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2	
1,1-Dichloroethane	ug/L	ND	ND		20	) N2	
1,1-Dichloroethene	ug/L	ND	ND		20	) N2	
1,1-Dichloropropene	ug/L	ND	ND		20	) N2	
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2	
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2	
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2	
1,2-Dichloroethane	ug/L	ND	ND		20	) N2	
1,2-Dichloropropane	ug/L	ND	ND		20	) N2	
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2	
1,3-Dichloropropane	ug/L	ND	ND		20	) N2	
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2	
2,2-Dichloropropane	ug/L	ND	ND		20	) N2	
2-Chlorotoluene	ug/L	ND	ND		20	) N2	
4-Chlorotoluene	ug/L	ND	ND		20	) N2	

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Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

SAMPLE DUPLICATE: 3088896		50040400004	D			
Davasatas	Haita	50313430001	Dup	DDD	Max	O I:f:
Parameter	Units	Result	Result	RPD	RPD 	Qualifiers —
Benzene	ug/L	ND	ND		20	) N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
m&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
Tetrachloroethene	ug/L	ND	ND		20	) N2
Toluene	ug/L	ND	ND		20	) N2
trans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
trans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Trichloroethene	ug/L	ND	ND		20	) N2
Vinyl chloride	ug/L	ND	ND		20	) N2
Xylene (Total)	ug/L	ND	ND		20	) N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

#### **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**

Date: 04/21/2022 10:58 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313430

Date: 04/21/2022 10:58 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313430001	DW-3	EPA 200.8	671085	EPA 200.8	671359
50313430001	DW-3	EPA 245.1	671366	EPA 245.1	671891
50313430001	DW-3	EPA 524.2	670792		

# Pace Analytical\*

# **CHAIN-OF-CUSTODY Analytical Request Document**

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

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1		Chain-of-	Custody is a LE	GAL DOCUM	ENT - Comp	lete all releva	nt fields																	
ompany: Mundell and Associate	s, Inc.		Billing Infor							100		35	A11 I	ROLL	000	TIIN	FD A	AREAS are for LAB USE ONLY						
ddress: 110 S Downey Ave, India	napolis, IN 4621	.9	110 5	Downey Av	e, Indiana	oolis, IN 462	19									Type *	3.35976	INE/A	Lab Project Manager:	ł				
			F							1	3	8	0	riese	rvative	Туре	- 13		Lab Project Manager.					
eport To: Luke Johnstone			Email To: [	johnstone	@mundella	associates.c	om			1		e Type	s: (1) n	itric aci	d, (2) su	Ifuric aci	d, (3) hy	drochlo	pric acid, (4) sodium hydroxide, (5) zinc acetate,	٦				
ору То:			Site Collect	ion Info/A		Muncie,	Indiana					200				um thios reserved	9.40-0.00		ne, (A) ascorbic acid, (B) ammonium sulfate, Il water					
ustomer Project Name/Number:			-	County/City		e Zone Coll			_					Anal	yses				Lab Profile/Line:					
M20032 Muncie Phase II				Muncie		T [ ] T		X JET		Hg)						2654	1		Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA					
hone: 317-630-9060 mail: Ljohnstone@mundellassoc	Site/Facility ID iates.com	)#:			Complian [ ] Yes	ce Monitori [ ] No	ing?			for		-						7	Custody Signatures Present Y N NA Collector Signature Present Y N NA Bottles Intact Y N NA					
ollected By (print):	Purchase Orde	er#:			DW PWS	ID #:				245.1					- 1	1	200		Correct Bottles Y N NA					
Luke Johnstone	Quote #:				_	ion Code:			(9)	(and						1. 1			Sufficient Volume Y N NA					
ollected By (signature):	Turnaround D	ate Requir	ed:		[x] Yes	ely Packed [ ] No			Glass (G	200.8 (a			18				14.		Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA					
ample Disposal:	Rush: (Expedi				and the second	red (if appli	cable):		or G										Samples in Holding Time Y N NA					
Dispose as appropriate	[ ] Same [				[ ] Yes	[x]No			(P)	EPA	524.2					100	8		Residual Chlorine Present Y N NA Cl Strips:					
] Return ] Archive:	[ ] 2 Day				Anni min				D)	S Ki				7.7					Sample pH Acceptable Y N NA					
] Hold:	[ ] 4 Day	[ ]5 Day			Analysis:				Plastic	Metals	a EPA		537.1				X		pH Strips:					
Matrix Codes (Insert in Matrix be Product (P), Soil/Solid (SL), Oil (C							),		rype: P	00	list via	EPA 505	EPA 53						Sulfide Present Y N NA Lead Acetate Strips:					
ustomer Sample ID	Matrix *	Comp / Grab	Composi	7.77	Comp	osite End	Res	# of Ctns	Container	al RCRA	VOC's full	via	2 a						LAB USE ONLY: Lab Sample # / Comments:					
	-	0.00	Date	Time	Date	Time	1	20.00	Cont	Total	8	PCB	PFAS				- 10		see scuk					
Dw-3	DW/GW	Grab	4:245	11:26				4	G/P	X	х													
			4/6											17-16		CLUT				ı				
																		0		ı				
		100						1					7111							ı				
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		1								1										i				
	+						-										-			i				
		+	+		-	+										100	-			i				
Customer Remarks / Special Conc	litions / Possible	Hazards:	Tunn of ten	Hends	Wat	Dhua	Dev	None			Isuor	OT HO	I DC DE	ESENT	(272)	nours):	V 6	I NI	/A LAB Sample Temperature Info:	Ė				
VOC full list, Total RCRA 8 Met		11020103.	Type of Ice Packing Ma	Service Service	Wet d:	Blue	Dry	None			100000	rackir	0.0.100	VESCIA!	(472)	iouis).	- 78	147	Temp Blank Received: Y N NA Therm ID#:					
All sampled via drinking water	methods		Radchem s	ample(s) s	creened (<	500 cpm):	Y 1	N NA			100,000		ceived					_	Cooler 1 Temp Upon Receipt: oC Cooler 1 Therm Corr. Factor: o Cooler 1 Corrected Temp: oC	C				
			100						G-LLD			DEX	UPS		-	Courier	-	-	Comments:					
Relinquished by/Company: (Signa	ture)	Date	e/Time:	1115	Received	by/Company	y: (Signa	ture)	200			14/8	122	- "	17_	Table	JL LAB #;	USE OI	see scup					
Relinquished by/Company: (Signa	ture)	Date	e/Time:	-/3	Received I	by/Company	y: (Signa				1	Date/	Time:			Acctn			Trip Blank Received: Y N NA	ĺ				
Lette	- fa	6 6	#8/22	- 1250	R.	Clem	me	4	-			45	8-2:	2 1:	2350	Templ Prelog			HCL MeOH TSP Other					
Relinquished by/Company: (Signa	ture)	Date	e/Time:		Received I	by/Compan	y: (Signa	ture)				Date/	Time:			PM: PB:			Non Conformance(s):   Page:     YES / NO     Of:     Page 18 of 2					

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

Pace Analytical

# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents  1. Courier:   FED EX UPS CLIENT PAR  2. Custody Seal on Cooler/Box Present:   Yes	☐ Bubble Wrap ☐ None	☑ Bubble Bags ☐ Other						
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABC DEF		vere pres	ent)	6. Ice Type: Wet	☐ Blue ☐ None	9		
4. Cooler Temperature: 0907 0.2/08 0.3/o				7. If temp. is over 6°C or			: 🗆 Yes	□ No
All	discrepanci	ies will be	written out in the	comments section below.			70.	
Caracal Control of the Control of th	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)		/	CHECKED?: exce container with a se	ding acid/base pres. Have be ptions: VOA, coliform, LLHg, ptum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Circle: (HNO3 (<2) H2SO Any non-conforman count form	04 (<2) NaOH (>10) NaOH/Z ce to pH recommendations will b	nAc (>9) e noted on the container	/		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	7	1		Check (Total/Amenable/Free			7	1
Custody Signatures Present?			Headspace Wisco					
Containers Intact?:	1,		Headspace in VOA See Containter Co	Vials (>6mm): unt form for details		Present	Absent	No VOA Vials Sen
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 Custod	y Seals?:				
COMMENTS:								
<del>,</del>							P	age 19 of 20

COC	PAGE	1 of 1	

# Sample Container Count

SBS
DI
MeOH
(only)
BK
Kit

\*\* Place a RED dot on containers

that are out of co	onformance *
--------------------	--------------

		Kit									 that are out of conformance **																		
COC Line Item	WGFU	R	3	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	вьзв	BP3Z	сезн	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH.>9	NaOH pH>10
1			3																1							WT			
2									7																				
3		-											-																
4																													
5																													
6																													
7										-	-																		
8							1 1	1-0								11-													
9																													
10																													
11																													
12		-									-			_		-								1					

#### Container Codes

	Gla	SS			
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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

	125mL unpreserved plastic	
BP4N	125mL HNO3 plastic	
	125mL H2SO4 plastic	

Syringe Kit	LL Cr+6 sampling kit
-------------	----------------------

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Lab ID	Sample ID	Matrix	Date Collected	Date Received		
50313429001	DW-4	Drinking Water	04/06/22 11:50	04/08/22 12:50		



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313429001	DW-4	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313429001	DW-4					
EPA 200.8	Arsenic	3.2	ug/L	1.0	04/19/22 05:51	N2
EPA 200.8	Barium	144	ug/L	1.0	04/19/22 05:51	N2
EPA 200.8	Lead	29.4	ug/L	1.0	04/19/22 05:51	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Date: 04/21/2022 10:59 AM

Sample: DW-4	Lab ID: 503	13429001	Collected: 04/06/2	2 11:50	Received: 04	/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Met	nod: EPA 20	00.8 Preparation Met	hod: EP	A 200.8			
	Pace Analytica	I Services -	Indianapolis					
Arsenic	3.2	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:51	7440-38-2	N2
Barium	144	ug/L	1.0	1		04/19/22 05:51		N2
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00	04/19/22 05:51	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:51	7440-47-3	N2
_ead	29.4	ug/L	1.0	1		04/19/22 05:51		N2
Selenium	ND	ug/L	2.0	1		04/19/22 05:51		N2
Silver	ND	ug/L	0.50	1		04/19/22 05:51		N2
245.1 Mercury	Analytical Meth	nod: FPA 24	45.1 Preparation Met	hod: FP	Δ 245 1			
240.1 Mercury	Pace Analytica		•	nou. Li	7(240.1			
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:21	7439-97-6	
•		•		·	0 ., . 0, == 00.00	0 1, 10, 22 1012 1		
524.2 MSV	Analytical Metheral Pace Analytica							
_	•		·					
Benzene	ND	ug/L	0.50	1		04/13/22 00:31		N2
Bromobenzene	ND	ug/L	0.50	1		04/13/22 00:31		N2
Bromodichloromethane	ND	ug/L	1.0	1		04/13/22 00:31		N2
Bromoform	ND	ug/L	1.0	1		04/13/22 00:31		N2
Bromomethane	ND	ug/L	5.0	1		04/13/22 00:31	74-83-9	N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 00:31	56-23-5	N2
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 00:31	108-90-7	N2
Chloroethane	ND	ug/L	0.50	1		04/13/22 00:31		N2
Chloroform	ND	ug/L	1.0	1		04/13/22 00:31	67-66-3	N2
Chloromethane	ND	ug/L	1.0	1		04/13/22 00:31	74-87-3	N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 00:31	95-49-8	N2
I-Chlorotoluene	ND	ug/L	0.50	1		04/13/22 00:31	106-43-4	N2
Dibromochloromethane	ND	ug/L	1.0	1		04/13/22 00:31	124-48-1	N2
Dibromomethane	ND	ug/L	0.50	1		04/13/22 00:31	74-95-3	N2
,2-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 00:31	95-50-1	N2
,3-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 00:31	541-73-1	N2
,4-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 00:31	106-46-7	N2
,1-Dichloroethane	ND	ug/L	0.50	1		04/13/22 00:31	75-34-3	N2
,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 00:31	107-06-2	N2
,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:31	75-35-4	N2
sis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:31		N2
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:31	156-60-5	N2
,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:31		N2
,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:31		N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:31		N2
,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 00:31		N2
sis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 00:31		N2
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 00:31		N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 00:31		N2
Methylene Chloride	ND ND	ug/L ug/L	2.5	1		04/13/22 00:31		N2
Methyl-tert-butyl ether	ND ND	ug/L ug/L	1.0	1		04/13/22 00:31		N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

Sample: DW-4	Lab ID: 503	Lab ID: 50313429001		Collected: 04/06/22 11:50		4/08/22 12:50	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
524.2 MSV	Analytical Met	hod: EPA 52	24.2						
	Pace Analytica	al Services -	Indianapolis						
Styrene	ND	ug/L	0.50	1		04/13/22 00:3	I 100-42-5	N2	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 00:3	l 630-20-6	N2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 00:3	79-34-5	N2	
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 00:3	l 127-18-4	N2	
Toluene	ND	ug/L	1.0	1		04/13/22 00:3	I 108-88-3	N2	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 00:3	I 120-82-1	N2	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 00:3	l 71-55-6	N2	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 00:3	l 79-00-5	N2	
Trichloroethene	ND	ug/L	0.50	1		04/13/22 00:3	l 79-01-6	N2	
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 00:3	l 96-18-4	N2	
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 00:3	75-01-4	N2	
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 00:3	1330-20-7	N2	
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 00:3	179601-23-1	N2	
o-Xylene	ND	ug/L	0.50	1		04/13/22 00:3	l 95-47-6	N2	
Surrogates									
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/13/22 00:3			
Dibromofluoromethane (S)	98	%.	70-130	1		04/13/22 00:3	I 1868-53-7		
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 00:3	2037-26-5		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313429

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313429001

METHOD BLANK:

Matrix: Water

Associated Lab Samples: 50313429001

Blank Units Result Reporting Limit

Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Units ug/L

5

5.6

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

50313426001

Result

ND

MS

5

Spike

Conc.

MSD Spike

Conc.

5

MS Result

3091669

MSD Result

MS % Rec

103

MSD % Rec

102

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Mercury

Mercury

Units

ug/L

Parameter Units

ug/L

50313435001

MS Spike

5.2

MS % Rec % Rec

70-130

Qualifiers

Date: 04/21/2022 10:59 AM

3091670

Result

Conc. ND 5

Result 5.6

5.1

111

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313429001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313429001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX SF	IKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
	5	50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SF	PIKE DUPLI	ICATE: 3090	229		3090230							
			MS	MSD								
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	 ND	40	40	39.9	39.5	99	98	70-130		20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	CATE: 3090	-	MOD	3090230							
	5	0313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313429001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313429001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313429001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	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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Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

LABORATORY CONTROL SAMPL	E: 3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	<b>N</b> 2
m&p-Xylene	ug/L	40	45.2	113	70-130 I	<b>N</b> 2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130 I	<b>N</b> 2
Methylene Chloride	ug/L	20	17.6	88	70-130 I	<b>N</b> 2
o-Xylene	ug/L	20	22.0	110	70-130 I	<b>N</b> 2
Styrene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Tetrachloroethene	ug/L	20	22.5	112	70-130 I	<b>N</b> 2
Toluene	ug/L	20	21.0	105	70-130 I	<b>N</b> 2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130 I	<b>N</b> 2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Trichloroethene	ug/L	20	20.2	101	70-130 I	<b>N</b> 2
Vinyl chloride	ug/L	20	16.3	81	70-130 I	<b>N</b> 2
Xylene (Total)	ug/L	60	67.2	112	70-130 I	<b>N</b> 2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

#### **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**

Date: 04/21/2022 10:59 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313429

Date: 04/21/2022 10:59 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313429001	DW-4	EPA 200.8	671085	EPA 200.8	671359
50313429001	DW-4	EPA 245.1	671366	EPA 245.1	671891
50313429001	DW-4	EPA 524.2	670791		

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#### **CHAIN-OF-CUSTODY Analytical Request Document**

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

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

-	ALL DOLD	OUTLINED	AREAS are	for I AD	LICE ONLY
	ALL DULD	OUTLINED	AKEAS are	IUI LAD	USE UNLT

Company: Mundell and Associat	tes, Inc.		Billing Into	rmation:						113			ALL	BOLD	OUTL	INED	ARE	EAS a	ire for LAB USE ONLY
Address: 110 S Downey Ave, Ind	lianapolis, IN 4621	9	110 5	Downey A	ve, Indianap	olis, IN 462	19				-	-	-	Preserva	-			-	Lab Project Manager:
Report To: Luke Johnstone		_	Email To:		0 11		15.		-	1	3	8	0	650			-		
neport to: Luke Johnstone				Ljonnstone	@mundella	issociates.c	om												acid, (4) sodium hydroxide, (5) zinc acetate,
Сору То:			Site Collect	tion Info/A W CR 32		Muncie,	Indiana									thiosulfate rved, (O)			(A) ascorbic acid, (B) ammonium sulfate, ster
Customer Project Name/Number	r:		-	County/Cit		e Zone Coll			_					Analyse	s			_	Lab Profile/Line:
M20032 Muncie Phase II				Muncie		T [ ]MT [		X]ET		Hg)				čin.	100				Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA
Phone: 317-630-9060	Site/Facility ID	#:			Complian	ce Monitori	ng?			for H		Si				11			Custody Signatures Present Y N NA
Email: Ljohnstone@mundellasso	ciates.com				[ ] Yes	[ ] No				1.					15	11	,		Collector Signature Present Y N NA Bottles Intact Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:	er#:			DW PWS I					d 245.1				53		1			Correct Bottles Y N NA Sufficient Volume Y N NA
Collected By (signature): /	Turnaround D	ate Requir	ed:		-	ely Packed	on Ice:		(9)	(and				15		11			Samples Received on Ice Y N NA
Inte hu ha					[x] Yes	[]No			Glass	200.8						11			VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA
Sample Disposal:	Rush: (Expedi	ite Charges	Apply)		Field Filte	red (if appli	cable):			1 20						1 1			Samples in Holding Time Y N NA
x ] Dispose as appropriate	[ ] Same D	Day [ ] N	ext Day		[ ] Yes	[x]No			0	EPA	4.2					11 1			Residual Chlorine Present Y N NA
Return	[ ] 2 Day	[ ] 3 Day							(a)	₹ ×	524	)		-		11			Cl Strips:
[ ] Archive:	[ ] 4 Day	[ ] 5 Day			Analysis:				Plastic	SE	EPA		77			11 1			Sample pH Acceptable Y N NA pH Strips:
* Matrix Codes (Insert in Matrix	box below): Drinki	ng Water (	DW), Groun	d Water (C	W). Waster	water (WW	).		4	Metals	- Ki	505	EPA 537.			11 1			Sulfide Present Y N NA
Product (P), Soil/Solid (SL), Oil (							"		уре	00	list	EPA 5	PA	-		1 1			Lead Acetate Strips:
7100011 // 2017 2017 (2-1/) 2017	1	Comp/		ted (or	T		Res	# of	1 5	RCRA	Fe Fe	a EP	via E	133		11			LAB USE ONLY:
Customer Sample ID	Matrix *	Grab		ite Start)	Compo	osite End	CI	Ctns	ain	- B	VOC's	3 via	45.			1 1			Lab Sample # / Comments:
23-11-12-2-16-2-2-2		5.00	Date	Time	Date	Time			Container	Total	9	PCF	PFAS			1 1			see scyr
et 11		1	11/11	11.0		-	-	14	G/P	v	X		-		-				Jee Seyk
DW-4	DW/GW	Grab	7/6/20	1150	-	-	-	4	G/P	X	^						-		
	416-20-									4		-11							
										2 1					100				
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	+	1			+	-			-										
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				111													64.		
			1									100		Tibol .					
Customer Remarks / Special Cor	ditions / Possible	Hazards:	Type of Ice	Head:	Wet	Blue	Dry	None			SHO	OH TS	I DS DE	ESENT L	72 hour	rs): Y	N	N/A	LAB Sample Temperature Info:
VOC full list, Total RCRA 8 Me			A CONTRACTOR OF THE PARTY OF TH			DICE	DIY	None		-	1			CSCIVI (	72 11001	31.	14	14/A	Temp Blank Received: Y N NA
VOC full list, Total RCRA 8 ME	ctals		Packing Ma	aterial Use	d:						Lab	Frackin	ng #:						Therm ID#:
All sampled via drinking wate	r methods							-	_	-	Came	nlos re	ceived	via:					Cooler 1 Temp Upon Receipt:oC Cooler 1 Therm Corr. Factor: oC
Lancia Confidential States			Radchem s	ample(s) s	creened (<5	00 cpm):	Y 1	NA NA			1 1000	DEX	UPS		t Cou	rier Pa	re Co	urier	Cooler 1 Corrected Temp:oC
		To .		200000		10	(4)	-	^		1 200	-	_	3-03-12	-	0000000			Comments:
Relinguished by/Company: (Sign	nature)		Time:	115	Received b	y/Co <del>mpan</del>	r: (Signa	ture)	Pac	_		Date/	122	- 11		MTJL LA ble #:	IB US	E ONLY	- see scup
Relinquished by/Company: (Sign			/Time:	0	Received b	y/Company	: (Signa	ture)				Date/	lime:		Ac	ctnum:			Trip Blank Received: Y N NA
712 F	0	1/	100-	1250	D/	//	. ,	_			Į,	1 50	20	12 9	100	mplate:			HCL MeOH TSP Other
Lev - n	- ya		18/22	1'-	-110	UNIVI	wy	_			$\rightarrow$	•	22	14.7	100	elogin:			
Relinquished by/Company: (Sign	nature)	Date	/Time:		Received b	y/Company	: (Signa	ture)				Date/	lime:		PN				Non Conformance(s): Page:
											- 1				РВ				YES / NO of: Page 16 of 18
					-						_	_			- Boom	-		-	

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

# Pace Analytical

### SAMPLE CONDITION UPON RECEIPT FORM

1. Courier:  FED EX UPS CLIENT VPACE.  Custody Seal on Cooler/Box Present:  Yes	No		5. Packing Material: Bubble	Wrap ☑ Bubl	ole Bags er	
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABC © EF  4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/6  Temp should be above freezing to 6°C (Initial/Corrected)	1.		6. Ice Type: Wet Blue 7. If temp. is over 6°C or under 0°C, w		?: □ Yes	s 🗆 No
All	discrepanc Yes	ies will be	written out in the comments section below.	Ver	1 46	1
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	100	/	All containers needing acid/base pres. Have been <u>CHECKED</u> ?: exceptions: VOA, coliform, LLHg, O&G, and an container with a septum cap or preserved with HCI.	Yes	No	N/A
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Circle: (NO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any mon-conformance to pH recommendations will be noted on the count form	container		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<b>/</b>		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			/
COMMENTS:						

COC PAGE 1	of!
------------	-----

### **Sample Container Count**

BK

\*\* Place a RED dot on containers

that are out of conformance \*\*

		NIL	1 12																								re out or		
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (≻6mm)	NG9N	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3																1							WT	-		
2		-												1					15										
3																			1	-						L		_	
4						1: 3						1											1						
5						1 1																	. 1 }						
6																													
7																													
8																													
9																													
10																													
11													1														Tag		
12		1 11																									be.		

Container Codes

	Gla	SS				Plas	tic	/ Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	125r	mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP4N	125r	mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP4S	125r	nL 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	Syring	e Kit	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic			
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	Air	Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	C	Air (	Cassettes
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	Terr	racore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5T	120	mL Coliform Na Thiosul
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	U	Sun	nma Can
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	ZPLC	Zipl	oc Bag
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL	7	Solid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	OL	Non-aqueous liquid
						WP		Wine

as	tic / Misc.	
BP4U	125mL unpreserved plastic	
BP4N	125mL HNO3 plastic	
BP4S	125mL HNO3 plastic 125mL H2SO4 plastic	

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313428001	DW-5	Drinking Water	04/06/22 12:13	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313428001	DW-5	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313428001	DW-5					
EPA 200.8 EPA 200.8	Arsenic Lead	4.0 4.1	ug/L ug/L	1.0 1.0	04/19/22 05:47 04/19/22 05:47	N2 N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

Sample: DW-5	Lab ID: 503	313428001	Collected: 04/06/2	2 12:13	Received: 04	/08/22 12:50 N	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Met	hod: EPA 20	00.8 Preparation Met	hod: EP	A 200.8			
	Pace Analytica	al Services -	- Indianapolis					
Arsenic	4.0	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:47	7440-38-2	N2
Barium	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:47	7440-39-3	N2
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00	04/19/22 05:47	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:47	7440-47-3	N2
Lead	4.1	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:47	7439-92-1	N2
Selenium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:47	7782-49-2	N2
Silver	ND	ug/L	0.50	1		04/19/22 05:47		N2
245.1 Mercury	Analytical Met	hod: EPA 24	45.1 Preparation Met	hod: EP	A 245.1			
,	Pace Analytica		·					
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:18	7439-97-6	
524.2 MSV	Analytical Met	hod: EPA 52	24.2					
	Pace Analytica							
Benzene	ND	ug/L	0.50	1		04/13/22 00:05	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	1		04/13/22 00:05	108-86-1	N2
3romodichloromethane	ND	ug/L	1.0	1		04/13/22 00:05		N2
Bromoform	ND	ug/L	1.0	1		04/13/22 00:05		N2
Bromomethane	ND	ug/L	5.0	1		04/13/22 00:05		N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 00:05		N2
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 00:05		N2
Chloroethane	ND	ug/L	0.50	1		04/13/22 00:05		N2
Chloroform	ND	ug/L	1.0	1		04/13/22 00:05		N2
Chloromethane	ND	ug/L	1.0	1		04/13/22 00:05		N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 00:05		N2
4-Chlorotoluene	ND	ug/L	0.50	1		04/13/22 00:05		N2
Dibromochloromethane	ND	ug/L	1.0	1		04/13/22 00:05		N2
Dibromomethane	ND ND	ug/L	0.50	1		04/13/22 00:05		N2
1,2-Dichlorobenzene	ND ND	ug/L	0.50	1		04/13/22 00:05		N2
1,3-Dichlorobenzene	ND ND	ug/L ug/L	0.50	1		04/13/22 00:05		N2
1,4-Dichlorobenzene	ND ND	•	0.50	1		04/13/22 00:05		N2
1,4-Dichloroethane	ND ND	ug/L	0.50	1		04/13/22 00:05		N2
,	ND ND	ug/L	0.50	1		04/13/22 00:05		N2
1,2-Dichloroethane		ug/L		1				
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:05		N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:05		N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 00:05		N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:05		N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:05		N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 00:05		N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 00:05		N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 00:05		N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 00:05		N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 00:05		N2
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 00:05		N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 00:05	1634-04-4	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

Sample: DW-5	Lab ID: 503	13428001	Collected: 04/06/2	2 12:13	Received: 0	4/08/22 12:50 I	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
524.2 MSV	Analytical Meth	od: EPA 524	4.2						
	Pace Analytica	l Services -	Indianapolis						
Styrene	ND	ug/L	0.50	1		04/13/22 00:05	100-42-5	N2	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 00:05	630-20-6	N2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 00:05	79-34-5	N2	
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 00:05	127-18-4	N2	
Toluene	ND	ug/L	1.0	1		04/13/22 00:05	108-88-3	N2	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 00:05	120-82-1	N2	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 00:05	71-55-6	N2	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 00:05	79-00-5	N2	
Trichloroethene	ND	ug/L	0.50	1		04/13/22 00:05	79-01-6	N2	
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 00:05	96-18-4	N2	
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 00:05	75-01-4	N2	
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 00:05	1330-20-7	N2	
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 00:05	179601-23-1	N2	
o-Xylene	ND	ug/L	0.50	1		04/13/22 00:05	95-47-6	N2	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130	1		04/13/22 00:05	460-00-4		
Dibromofluoromethane (S)	98	%.	70-130	1		04/13/22 00:05	1868-53-7		
Toluene-d8 (S)	107	%.	70-130	1		04/13/22 00:05	2037-26-5		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313428

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313428001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313428001

Blank

Parameter

Units

Reporting Limit

Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE: Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

MS

% Rec

103

Qualifiers

Mercury

Units ug/L

5

Result

5.6

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

50313426001

Result

ND

MS

5

Spike

Conc.

MSD Spike

Conc.

5

MS Result

3091669

MSD Result

5.1

MSD % Rec % Rec

102

111

Max **RPD** Limits

RPD Qual 20

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:59 AM

Parameter

Parameter

3091670

Units

ug/L

50313435001

Spike

MS

MS

% Rec

70-130

Qualifiers

Mercury

Mercury

Units

ug/L

Result

ND

Conc. 5

5.2

Result 5.6 % Rec

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313428001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	SPIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313428001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313428001

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2	
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2	
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2	
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2	
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2	
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2	
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2	
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2	
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2	
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2	
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2	
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130 N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130 N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130 N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130 N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130 N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130 N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130 N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130 N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130 N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130 N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130 N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130 N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130 N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130 N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130 N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130 N2
Benzene	ug/L	20	19.7	99	70-130 N2
Bromobenzene	ug/L	20	20.7	103	70-130 N2
Bromodichloromethane	ug/L	20	20.3	101	70-130 N2
Bromoform	ug/L	20	23.2	116	70-130 N2
Bromomethane	ug/L	20	16.7	84	70-130 N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130 N2
Chlorobenzene	ug/L	20	22.1	110	70-130 N2
Chloroethane	ug/L	20	18.1	91	70-130 N2
Chloroform	ug/L	20	17.9	90	70-130 N2
Chloromethane	ug/L	20	17.4	87	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130 N2
Dibromochloromethane	ug/L	20	22.5	112	70-130 N2
Dibromomethane	ug/L	20	20.6	103	70-130 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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Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

#### **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**

Date: 04/21/2022 10:59 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313428

Date: 04/21/2022 10:59 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313428001	DW-5	EPA 200.8	671085	EPA 200.8	671359
50313428001	DW-5	EPA 245.1	671366	EPA 245.1	671891
50313428001	DW-5	EPA 524.2	670791		

#### LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or **CHAIN-OF-CUSTODY Analytical Request Document** MTJL Log-in Number Here Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Billing Information: Company: Mundell and Associates, Inc. ALL BOLD OUTLINED AREAS are for LAB USE ONLY Address: 110 S Downey Ave, Indianapolis, IN 46219 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 8 0 Report To: Luke Johnstone Email To: Liohnstone@mundellassociates.com \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water 5304 S Breezewood Dr Muncie, Indiana Analyses Lab Profile/Line: Time Zone Collected: County/City: Customer Project Name/Number: Lab Sample Receipt Checklist: M20032 Muncie Phase II / Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA (and 245.1 for Collector Signature Present Y N NA [ ] Yes [ ] No Email: Ljohnstone@mundellassociates.com Bottles Intact Purchase Order #: DW PWS ID #: Collected By (print): Correct Bottles Luke Johnstone DW Location Code: Sufficient Volume Quote #: Turnaround Date Required: Samples Received on Ice Immediately Packed on Ice: Collegted By (signature): Glass EPA 200.8 VOA - Headspace Acceptable [x] Yes [] No USDA Regulated Soils Field Filtered (if applicable): Sample Disposal: Rush: (Expedite Charges Apply) ò 524.2 (x ) Dispose as appropriate [ ] Same Day [ ] Next Day [ ] Yes [x]No Plastic (P) Cl Strips: Return Total RCRA 8 Metals via [ ]2 Day [ ]3 Day ] Archive: VOC's full list via EPA [ ] 4 Day [ ] 5 Day Analysis: 537.1 pH Strips: ] Hold: Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Container Type: EPA Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) EPA PFAS via LAB USE ONLY: # of Collected (or Comp / Composite End Customer Sample ID Matrix \* Grab Composite Start) CI Ctns Time Time G/P X X 12:13 DW-5 DW/GW Customer Remarks / Special Conditions / Possible Hazards: Type of Ice Used: SHORT HOLDS PRESENT (<72 hours): Y N N/A Wet Blue Dry None VOC full list, Total RCRA 8 Metals Packing Material Used: Lab Tracking #: Therm ID#:

Samples in Holding Time YNNA Residual Chlorine Present YNNA Sample pH Acceptable YNNA Y N NA Sulfide Present Lead Acetate Strips: Lab Sample # / Comments: LAB Sample Temperature Info: Temp Blank Received: Y N Cooler 1 Temp Upon Receipt: oC All sampled via drinking water methods Cooler 1 Therm Corr. Factor: oC Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA Cooler 1 Corrected Temp: FEDEX UPS Client Courier Pace Courier Date/Time: Relinguished by/Company: (Signature) Received by/Company: (Signature) MTJL LAB USE ONLY Table #: Date/Time: Received by/Company: (Signature) Acctnum: Template: HCL MeOH TSP Other Prelogin: Non Conformance(s): Received by/Company: (Signature) Date/Time: PM: Page: PB: YES / NO

Y N NA

Y N NA

Y N NA

Y N NA

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

Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	/	SPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	Bubble Wrap Bubble Bags		
2. Custody Seal on Cooler/Box Present: Yes	No No				□None	Other		
(If yes)Seals Intact:	if no seals v	were prese	ent)	1				
3. Thermometer: 123456 ABC (EF				6. Ice Type: Wet	☐ Blue ☐ None	e e		
4. Cooler Temperature: 0.9.10.7 0.3/00 0.3/0 Temp should be above freezing to 6°C (Initial/Corrected)	2.1			7. If temp. is over 6°C or	under 0°C, was the PM	notified?	☐ Yes	□ No
All	discrepanc	ies 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)		/	CHECKED?: exce container with a se	ding acid/base pres. Have be options: VOA, coliform, LLHg, optum cap or preserved with H	O&G, and any	- 4		
Short Hold Time Analysis (48 hours or less)? Analysis:	Circle: (NO3 (<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:		B 12 100			Present	Absent	N/A
	- 1	1		Check (SVOC 625 Pest/PCB				/
Rush TAT Requested (4 days or less):	1	-	TRANSPORT TOW	Check (Total/Amenable/Free	Cyanide)			/
Custody Signatures Present?	/	-	Headspace Wisco	4 9 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		Present	Absept	No VOA Vials Ser
Containers Intact?:	1		Headspace in VOA See Containter Co	a Vials (>6mm): unt form for details			1	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	V		Trip Blank Presen	?			/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custod	y Seals?:				/
COMMENTS:								
					~			

COC PAGE \_ of _	4
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### **Sample Container Count**

SBS DI MeOH (only)

\*\* Place a RED dot on containers

		Kit	J. (-1																								that	are out c	of conform	nance "
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	Dean	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3 H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1	m		3																1								w	1		
2																11.1														
3																														
4								-																		J, d				
5																														
6				4																										
7			-																											-
8						1								11																
9																					1.13									
10																														
11														L.E.			1.4									4.4				
12									147					/ = 1	TT.			1,1-4												

Container Codes

	Gla	SS			
DG9H	40mL HCI 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	AGOU	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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

	Plastic / Misc.  BP4U 125mL unpreserved plastic  BP4N 125mL HNO3 plastic	
1	BP4U	125mL unpreserved plastic
1	BP4N	125mL HNO3 plastic
1	BP4S	125mL H2SO4 plastic

Synnge	e Kit LL Cr+6 sampling kit	
AF	Air Filter	
С	Air Cassettes	
R	Terracore kit	
SP5T	120mL Coliform Na Thiosulfate	
U	Summa Can	
ZPLC	Ziploc Bag	

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Lab ID	Sample ID	Matrix	Date Collected	Date Received		
50313425001	DW-6	Drinking Water	04/06/22 12:36	04/08/22 12:50		



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313425001	DW-6	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313425001	DW-6					
EPA 200.8 EPA 200.8	Barium Lead	1.5 27.9	ug/L ug/L	1.0 1.0	04/19/22 05:18 04/19/22 05:18	



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

Sample: DW-6	Lab ID: 5	0313425001	Collected:	04/06/2	22 12:36	Received: 04	1/08/22 12:50	Matrix: Drinking	g Water
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical M	lethod: EPA 20	00.8 Preparat	ion Met	thod: EP	A 200.8			
	Pace Analyt	ical Services -	Indianapolis						
Arsenic	ND	ug/L		1.0	1	04/15/22 02:00	04/19/22 05:18	3 7440-38-2	N2
Barium	1.5	ug/L		1.0	1		04/19/22 05:18		N2
Cadmium	ND	ug/L		0.20	1	04/15/22 02:00	04/19/22 05:18	7440-43-9	N2
Chromium	ND	ug/L		2.0	1	04/15/22 02:00	04/19/22 05:18	3 7440-47-3	N2
₋ead	27.9	ug/L		1.0	1	04/15/22 02:00	04/19/22 05:18	7439-92-1	N2
Selenium	ND	ug/L		2.0	1	04/15/22 02:00	04/19/22 05:18	7782-49-2	N2
Silver	ND	ug/L		0.50	1	04/15/22 02:00	04/19/22 05:18	7440-22-4	N2
245.1 Mercury	Analytical M	lethod: EPA 24	15.1 Preparat	ion Me	thod: EP	A 245.1			
	Pace Analyt	ical Services -	Indianapolis						
Mercury	ND	ug/L		0.20	1	04/19/22 09:33	04/19/22 17:25	7439-97-6	
524.2 MSV	Analytical M	lethod: EPA 52	24.2						
	Pace Analyt	ical Services -	Indianapolis						
Benzene	ND	ug/L		0.50	1		04/12/22 21:56	71-43-2	N2
Bromobenzene	ND	ug/L		0.50	1		04/12/22 21:56	108-86-1	N2
Bromodichloromethane	ND	ug/L		1.0	1		04/12/22 21:56	75-27-4	N2
Bromoform	ND	ug/L		1.0	1		04/12/22 21:56	75-25-2	N2
Bromomethane	ND	ug/L		5.0	1		04/12/22 21:56	74-83-9	N2
Carbon tetrachloride	ND	ug/L		0.50	1		04/12/22 21:56	56-23-5	N2
Chlorobenzene	ND	ug/L		0.50	1		04/12/22 21:56	108-90-7	N2
Chloroethane	ND	ug/L		0.50	1		04/12/22 21:56	75-00-3	N2
Chloroform	ND	ug/L		1.0	1		04/12/22 21:56	67-66-3	N2
Chloromethane	ND	ug/L		1.0	1		04/12/22 21:56	74-87-3	N2
2-Chlorotoluene	ND	ug/L		1.0	1		04/12/22 21:56	95-49-8	N2
-Chlorotoluene	ND	ug/L		0.50	1		04/12/22 21:56	106-43-4	N2
Dibromochloromethane	ND	ug/L		1.0	1		04/12/22 21:56	124-48-1	N2
Dibromomethane	ND	ug/L		0.50	1		04/12/22 21:56	74-95-3	N2
,2-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:56	95-50-1	N2
,3-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:56	541-73-1	N2
,4-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:56	106-46-7	N2
,1-Dichloroethane	ND	ug/L		0.50	1		04/12/22 21:56	75-34-3	N2
,2-Dichloroethane	ND	ug/L		0.50	1		04/12/22 21:56	107-06-2	N2
,1-Dichloroethene	ND	ug/L		0.50	1		04/12/22 21:56	75-35-4	N2
sis-1,2-Dichloroethene	ND	ug/L		0.50	1		04/12/22 21:56	156-59-2	N2
rans-1,2-Dichloroethene	ND	ug/L		0.50	1		04/12/22 21:56	156-60-5	N2
,2-Dichloropropane	ND	ug/L		0.50	1		04/12/22 21:56	78-87-5	N2
,3-Dichloropropane	ND	ug/L		0.50	1		04/12/22 21:56	142-28-9	N2
2,2-Dichloropropane	ND	ug/L		0.50	1		04/12/22 21:56	594-20-7	N2
,1-Dichloropropene	ND	ug/L		1.0	1		04/12/22 21:56	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L		0.50	1		04/12/22 21:56	10061-01-5	N2
rans-1,3-Dichloropropene	ND	ug/L		0.50	1		04/12/22 21:56	10061-02-6	N2
Ethylbenzene	ND	ug/L		0.50	1		04/12/22 21:56	100-41-4	N2
Methylene Chloride	ND	ug/L		2.5	1		04/12/22 21:56	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L		1.0	1		04/12/22 21:56	1634-04-4	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

Sample: DW-6	Lab ID: 503	13425001	Collected: 04/06/2	2 12:36	Received: 0	4/08/22 12:50 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Meth	od: EPA 524	1.2					
	Pace Analytica	l Services - I	ndianapolis					
Styrene	ND	ug/L	0.50	1		04/12/22 21:56	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 21:56	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 21:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 21:56	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 21:56	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 21:56	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:56	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:56	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 21:56	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 21:56	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 21:56	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 21:56	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 21:56	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 21:56	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/12/22 21:56	460-00-4	
Dibromofluoromethane (S)	97	%.	70-130	1		04/12/22 21:56	1868-53-7	
Toluene-d8 (S)	107	%.	70-130	1		04/12/22 21:56	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313425

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313425001

50313425001

Parameter

Blank Units Result Reporting Limit

Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Units ug/L

50313426001

Result

ug/L

5

5.6

3091669

5.2

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

ND

MSD Spike

Conc.

5

MS Result

MSD

5.1

Result

MS

% Rec

103

MSD

% Rec

102

% Rec Limits

Max **RPD** RPD

MATRIX SPIKE SAMPLE:

Mercury

Mercury

Units

ug/L

50313435001 Units

MS

Spike

Conc.

Spike

MS

MS

% Rec

70-130

Qualifiers

20

Qual

Date: 04/21/2022 11:05 AM

Parameter

3091670

Result

5

Conc. ND 5

Result 5.6 % Rec 111 Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313425001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313425001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLI	ICATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313425001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313425001

		Blank	-1 - 3		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313425001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130 N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130 N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130 N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130 N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130 N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130 N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130 N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130 N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130 N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130 N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130 N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130 N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130 N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130 N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130 N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130 N2
Benzene	ug/L	20	19.7	99	70-130 N2
Bromobenzene	ug/L	20	20.7	103	70-130 N2
Bromodichloromethane	ug/L	20	20.3	101	70-130 N2
Bromoform	ug/L	20	23.2	116	70-130 N2
Bromomethane	ug/L	20	16.7	84	70-130 N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130 N2
Chlorobenzene	ug/L	20	22.1	110	70-130 N2
Chloroethane	ug/L	20	18.1	91	70-130 N2
Chloroform	ug/L	20	17.9	90	70-130 N2
Chloromethane	ug/L	20	17.4	87	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130 N2
Dibromochloromethane	ug/L	20	22.5	112	70-130 N2
Dibromomethane	ug/L	20	20.6	103	70-130 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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Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

LABORATORY CONTROL SAMPL	E: 3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	<b>N</b> 2
m&p-Xylene	ug/L	40	45.2	113	70-130 I	<b>N</b> 2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130 I	<b>N</b> 2
Methylene Chloride	ug/L	20	17.6	88	70-130 I	<b>N</b> 2
o-Xylene	ug/L	20	22.0	110	70-130 I	<b>N</b> 2
Styrene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Tetrachloroethene	ug/L	20	22.5	112	70-130 I	<b>N</b> 2
Toluene	ug/L	20	21.0	105	70-130 I	<b>N</b> 2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130 I	<b>N</b> 2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Trichloroethene	ug/L	20	20.2	101	70-130 I	<b>N</b> 2
Vinyl chloride	ug/L	20	16.3	81	70-130 I	<b>N</b> 2
Xylene (Total)	ug/L	60	67.2	112	70-130 I	<b>N</b> 2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

#### **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**

Date: 04/21/2022 11:05 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313425

Date: 04/21/2022 11:05 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313425001	DW-6	EPA 200.8	671085	EPA 200.8	671359
50313425001	DW-6	EPA 245.1	671366	EPA 245.1	671891
50313425001	DW-6	EPA 524.2	670791		

Relinquished by/Company: (Signature)

#### **CHAIN-OF-CUSTODY Analytical Request Document**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

Prelogin:

Non Conformance(s):

YES / NO

Page: \_

of:\_\_\_\_ Page 16 of 18

PM:

PB:

Date/Time:

1-			found at: https:/ ustody is a LEG							15				6						
Company: Mundell and Associate	tes, Inc.		Billing Infor	mation:						1			ALLE	BOLL	0 01	ITLIN	VED /	ARE	ASa	re for LAB USE ONLY
Address: 110 S Downey Ave, Ind	lianapolis, IN 4621	.9	11050	owney Av	e, Indianap	olis, IN 462	19			-		-	200	-		е Туре			-	Lab Project Manager:
Report To: Luke Johnstone			Email To: L	johnstone	@mundella	ssociates.co	om				servativ		7 7 7 7		. 4:1		100,000	1 TV 2023		acid, (4) sodium hydroxide, (5) zinc acetate,
Сору То:	190		Site Collecti 3605 \	on Info/Ad W Fleetwo		Muncie,	Indiana							) TSP,	(U) Unp		ed, (O) C		_DI wa	the second secon
Customer Project Name/Numbe M20032 Muncie Phase II	r:			ounty/City Juncie		e Zone Colle T [ ]MT [		XJET		Hg)		173		Anal	yses					Lab Profile/Line: Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA
hone: 317-630-9060 mail: Ljohnstone@mundellasso	Site/Facility II	) #:			Compliane	ce Monitori [] No	ng?			for										Custody Signatures Present Y N NA Collector Signature Present Y N NA
Collected By (print): Luke Johnstone	Purchase Ord Quote #:	er#:			DW PWS I					(and 245.1										Bottles Intact Y N NA Correct Bottles Y N NA Sufficient Volume Y N NA
Collected By(signature):	Turnaround D	ate Requir	ed:		Immediat [x] Yes	ely Packed (	on Ice:		Glass (G)	200.8 (ar										Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA USDA Regulated Soils Y N NA
iample Disposal: x ] Dispose as appropriate ] Return	Rush: (Exped [ ] Same ( [ ] 2 Day	Day [ ] N			Field Filte	red (if appli	cable):		Plastic (P) or G	via EPA 20	1524.2									Sample on Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA
] Archive: ] Hold:	[ ] 4 Day	[ ]5 Day			Analysis:			_	asti	Metals	EPA	To P	7.1					1777		pH Strips:
Matrix Codes (Insert in Matrix Product (P), Soil/Solid (SL), Oil		Air (AR), Tis	sue (TS), Bioa	ssay (B), V					Type:	RCRA 8 Me	full list via	<b>EPA 505</b>	8 EPA 537.							Sulfide Present Y N NA Lead Acetate Strips:
Customer Sample ID	Matrix *	Grab /	Collect Composit Date		Compo	Time	Res	# of Ctns	Container	Total RC	voc's fu	PCB via	PFAS via			13				Lab Sample # / Comments:
DW-6	DW/GW	Grab		12:36	100			4	G/P	×	Х							3		see scur
			7.5						-		$\vdash$			1			-			
		-							-		$\vdash$				-					
	+	-				-									-		-	E A		
Customer Remarks / Special Con VOC full list, Total RCRA 8 Me	etals	Hazards:	Type of Ice Packing Ma		Wet d:	Blue	Dry	None	E		Lab 1	Frackii	ng#:		(<72	hours)	; Y	N	N/A	LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm ID#: Cooler 1 Temp Upon Receipt: oC
All sampled via drinking water	312 1 20 1		Radchem sa								FE	DEX		C			er Pac	2000		Cooler 1 Therm Corr. Factor: oC Cooler 1 Corrected Temp: oC Comments:
Relinquished by/Company (Sign		14				y/Co <del>mpany</del>			ac	_		_	8/2	2	115	Tabl		B USE	ONLY	se sulk
Relinquished by/Company: (Sign	nature) — Paci		e/Time:	1250	Received to	y/Company						Date/1 4-8	1:22	12	50	March 19	num: plate:			Trip Blank Received: Y N NA HCL MeOH TSP Other

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

Pace Analytical\*

### SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	E U	ISPS [	OTHER 5. Packing Material:   Bubble Wrap	Bubb	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	No No		□None	☐ Other		
(If yes)Seals Intact: 🗆 Yes 🗀 No (leave blank		were pres	ent)			
3. Thermometer: 123456 ABC DEF			6. Ice Type: ☑ Wet ☐ Blue ☐ N	one		
4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/6.\ Temp should be above freezing to 6°C (Initial/Corrected)	=-		7. If temp. is over 6°C or under 0°C, was the	PM notified?	: 🗆 Yes	s □ No
All	discrepand	ies 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)		1	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.			
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Circle: (NO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the contain count form	ner /		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	<b>/</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?		1	/
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	<b>V</b>		Trip Blank Present?		/	
Extra labels on Terracore Vials? (soils only)	1	7	Trip Blank Custody Seals?:	1		/
COMMENTS:						

COC PAGE	of
----------	----

## Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out	of conformance	
--------------	----------------	--

		NIL																											Comorma	rice
COC Line Item	WGFU	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзо	BP3N	BP3F	BP3S	BP3B	BP3Z	сезн	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc I pH >9	NaOH pH>10
1			3					100																			W7	/		
2																														
3					1				1 4		-																			
4				1011					1 1																					
5																							-			-	-			= =
6																														
7																														
8																											1 1			
9					2																									
10		-																					-							
11																														
12							-																							

#### Container Codes

	Gla	SS			
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 HCI 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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	врзи	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

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

Syringe Kit	LL Cr+6 sampling kit
-------------	----------------------

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313426001	DW-7	Drinking Water	04/06/22 13:00	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313426001	DW-7	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Lab Sample ID	Client Sample ID					
Method	Parameters Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313426001	DW-7					
EPA 200.8	Barium	532	ug/L	4.0	04/19/22 07:18	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Date: 04/21/2022 11:04 AM

Sample: DW-7	Lab ID: 503	13426001	Collected: 04/06/2	22 13.00	Received: 04	/08/22 12:50 I	/latrix: Drinkino	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Meth	nod: EPA 20	00.8 Preparation Met	thod: EP	A 200.8			
	Pace Analytica	l Services -	Indianapolis					
Arsenic	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:22	7440-38-2	N2
Barium	532	ug/L	4.0	4	04/15/22 02:00	04/19/22 07:18	7440-39-3	N2
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00	04/19/22 05:22	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:22	7440-47-3	N2
₋ead	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 05:22	7439-92-1	N2
Selenium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 05:22	7782-49-2	N2
Silver	ND	ug/L	0.50	1	04/15/22 02:00	04/19/22 05:22	7440-22-4	N2
245.1 Mercury	Analytical Meth	nod: EPA 24	45.1 Preparation Met	thod: EP	A 245.1			
•	Pace Analytica	l Services -	Indianapolis					
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 17:28	7439-97-6	
524.2 MSV	Analytical Meth	nod: EPA 52	24.2					
	Pace Analytica	l Services -	Indianapolis					
Benzene	ND	ug/L	0.50	1		04/14/22 18:33	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	1		04/14/22 18:33	108-86-1	M1,N2
Bromodichloromethane	ND	ug/L	1.0	1		04/14/22 18:33	75-27-4	N2
Bromoform	ND	ug/L	1.0	1		04/14/22 18:33	75-25-2	L1,M0 N2
Bromomethane	ND	ug/L	5.0	1		04/14/22 18:33	74-83-9	L1,M0 N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/14/22 18:33	56-23-5	M1, N2
Chlorobenzene	ND	ug/L	0.50	1		04/14/22 18:33	108-90-7	M1, N2
Chloroethane	ND	ug/L	0.50	1		04/14/22 18:33	75-00-3	M1,N2
Chloroform	ND	ug/L	1.0	1		04/14/22 18:33		N2
Chloromethane	ND	ug/L	1.0	1		04/14/22 18:33		N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/14/22 18:33		M1,N2
1-Chlorotoluene	ND	ug/L	0.50	1		04/14/22 18:33	106-43-4	M1,N2
Dibromochloromethane	ND	ug/L	1.0	1		04/14/22 18:33	124-48-1	M1,N2
Dibromomethane	ND	ug/L	0.50	1		04/14/22 18:33		N2
I.2-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:33		M1,N2
I,3-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:33		M1,N2
,4-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:33		M1,N2
I.1-Dichloroethane	ND	ug/L	0.50	1		04/14/22 18:33		N2
1,2-Dichloroethane	ND	ug/L	0.50	1		04/14/22 18:33		N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/14/22 18:33		N2
cis-1,2-Dichloroethene	ND ND	ug/L ug/L	0.50	1		04/14/22 18:33		N2
rans-1,2-Dichloroethene	ND ND	ug/L ug/L	0.50	1		04/14/22 18:33		N2
1,2-Dichloropropane	ND ND	ug/L ug/L	0.50	1		04/14/22 18:33		N2
1,3-Dichloropropane	ND ND	•	0.50	1		04/14/22 18:33		
1 1		ug/L		1		04/14/22 18:33		M1, N2
2,2-Dichloropropane	ND ND	ug/L	0.50					M1, N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/14/22 18:33		M1, N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/14/22 18:33		M1, N2
rans-1,3-Dichloropropene	ND ND	ug/L ug/L	0.50 0.50	1 1		04/14/22 18:33 04/14/22 18:33		M1,N2 M1,N2
Ethylbenzene								

### **REPORT OF LABORATORY ANALYSIS**

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#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

Sample: DW-7	Lab ID: 503	13426001	Collected: 04/06/2	2 13:00	Received: 0	4/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Meth	nod: EPA 524	1.2					
	Pace Analytica	l Services - I	ndianapolis					
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/14/22 18:33	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/14/22 18:33	100-42-5	M1,N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/14/22 18:33	630-20-6	M1,N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/14/22 18:33	79-34-5	M1,N2
Tetrachloroethene	ND	ug/L	0.50	1		04/14/22 18:33	127-18-4	M1,N2
Toluene	ND	ug/L	1.0	1		04/14/22 18:33	108-88-3	M1,N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:33	120-82-1	M1,N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/14/22 18:33	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/14/22 18:33	79-00-5	M1,N2
Trichloroethene	ND	ug/L	0.50	1		04/14/22 18:33	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/14/22 18:33	96-18-4	M1, N2
Vinyl chloride	ND	ug/L	0.50	1		04/14/22 18:33	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/14/22 18:33	1330-20-7	MS,N2
m&p-Xylene	ND	ug/L	0.50	1		04/14/22 18:33	179601-23-1	M1,N2
o-Xylene	ND	ug/L	0.50	1		04/14/22 18:33	95-47-6	M1,N2
Surrogates								
4-Bromofluorobenzene (S)	94	%.	70-130	1		04/14/22 18:33	460-00-4	
Dibromofluoromethane (S)	95	%.	70-130	1		04/14/22 18:33	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/14/22 18:33	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313426

QC Batch:

671366

QC Batch Method: EPA 245.1

Analysis Method:

Analysis Description:

EPA 245.1 245.1 Mercury

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313426001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

Parameter

50313426001

Units

Reporting Limit

Analyzed

Qualifiers

Mercury

Mercury

Mercury

ug/L

Units

50313426001

Result

ug/L

ND

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE: 3091667

Parameter

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

ug/L Mercury 5 5.6 111 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

MS Spike Conc.

5

MSD Spike Conc.

5

ND

MSD Result Result

3091669

5.2

MS

MS % Rec

5.6

5.1

MSD % Rec

102

111

% Rec **RPD** Limits

70-130

70-130

Max RPD

20

Qual

Date: 04/21/2022 11:04 AM

Parameter

3091670

MATRIX SPIKE SAMPLE: Parameter Units

Units

ug/L

50313435001 Result

MS Spike Conc. Result

5

MS % Rec

103

% Rec Qualifiers Limits

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313426001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313426001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	SPIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	CATE: 3090	-	MOD	3090230							
	5	0313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

QC Batch: 671276 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313426001

METHOD BLANK: 3091257 Matrix: Water

Associated Lab Samples: 50313426001

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,1,1-Trichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/14/22 17:43	N2	
1,1,2-Trichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,1-Dichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,1-Dichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2	
1,1-Dichloropropene	ug/L	ND	1.0	04/14/22 17:43	N2	
1,2,3-Trichloropropane	ug/L	ND	2.0	04/14/22 17:43	N2	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
1,2-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
1,2-Dichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,2-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,3-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
1,3-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2	
1,4-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
2,2-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2	
2-Chlorotoluene	ug/L	ND	1.0	04/14/22 17:43	N2	
4-Chlorotoluene	ug/L	ND	0.50	04/14/22 17:43	N2	
Benzene	ug/L	ND	0.50	04/14/22 17:43	N2	
Bromobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
Bromodichloromethane	ug/L	ND	1.0	04/14/22 17:43	N2	
Bromoform	ug/L	ND	1.0	04/14/22 17:43	N2	
Bromomethane	ug/L	ND	5.0	04/14/22 17:43	N2	
Carbon tetrachloride	ug/L	ND	0.50	04/14/22 17:43	N2	
Chlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
Chloroethane	ug/L	ND	0.50	04/14/22 17:43	N2	
Chloroform	ug/L	ND	1.0	04/14/22 17:43	N2	
Chloromethane	ug/L	ND	1.0	04/14/22 17:43	N2	
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2	
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/14/22 17:43	N2	
Dibromochloromethane	ug/L	ND	1.0	04/14/22 17:43	N2	
Dibromomethane	ug/L	ND	0.50	04/14/22 17:43	N2	
Ethylbenzene	ug/L	ND	0.50	04/14/22 17:43	N2	
m&p-Xylene	ug/L	ND	0.50	04/14/22 17:43	N2	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/14/22 17:43	N2	
Methylene Chloride	ug/L	ND	2.5	04/14/22 17:43	N2	
o-Xylene	ug/L	ND	0.50	04/14/22 17:43	N2	
Styrene	ug/L	ND	0.50	04/14/22 17:43	N2	
Tetrachloroethene	ug/L	ND	0.50	04/14/22 17:43	N2	
Toluene	ug/L	ND	1.0	04/14/22 17:43	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

METHOD BLANK: 3091257 Matrix: Water

Associated Lab Samples: 50313426001

		Blank	Reporting		0 ""
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/14/22 17:43	N2
Trichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
Vinyl chloride	ug/L	ND	0.50	04/14/22 17:43	N2
Xylene (Total)	ug/L	ND	0.50	04/14/22 17:43	N2
4-Bromofluorobenzene (S)	%.	96	70-130	04/14/22 17:43	
Dibromofluoromethane (S)	%.	95	70-130	04/14/22 17:43	
Toluene-d8 (S)	%.	107	70-130	04/14/22 17:43	

LABORATORY CONTROL SAMPLE:	3091258				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.7	118	70-130 N2
1,1,1-Trichloroethane	ug/L	20	21.6	108	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2
1,1,2-Trichloroethane	ug/L	20	22.8	114	70-130 N2
1,1-Dichloroethane	ug/L	20	19.8	99	70-130 N2
1,1-Dichloroethene	ug/L	20	20.0	100	70-130 N2
1,1-Dichloropropene	ug/L	20	21.4	107	70-130 N2
1,2,3-Trichloropropane	ug/L	20	23.5	118	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	24.7	123	70-130 N2
1,2-Dichlorobenzene	ug/L	20	24.0	120	70-130 N2
1,2-Dichloroethane	ug/L	20	19.7	99	70-130 N2
1,2-Dichloropropane	ug/L	20	20.4	102	70-130 N2
1,3-Dichlorobenzene	ug/L	20	23.8	119	70-130 N2
1,3-Dichloropropane	ug/L	20	21.9	109	70-130 N2
1,4-Dichlorobenzene	ug/L	20	22.9	115	70-130 N2
2,2-Dichloropropane	ug/L	20	22.2	111	70-130 N2
2-Chlorotoluene	ug/L	20	23.3	116	70-130 N2
4-Chlorotoluene	ug/L	20	24.4	122	70-130 N2
Benzene	ug/L	20	19.4	97	70-130 N2
Bromobenzene	ug/L	20	21.1	106	70-130 N2
Bromodichloromethane	ug/L	20	20.6	103	70-130 N2
Bromoform	ug/L	20	26.2	131	70-130 L1,N2
Bromomethane	ug/L	20	29.0	145	70-130 L1,N2
Carbon tetrachloride	ug/L	20	21.8	109	70-130 N2
Chlorobenzene	ug/L	20	22.6	113	70-130 N2
Chloroethane	ug/L	20	23.3	117	70-130 N2
Chloroform	ug/L	20	18.6	93	70-130 N2
Chloromethane	ug/L	20	15.8	79	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	22.8	114	70-130 N2
Dibromochloromethane	ug/L	20	23.8	119	70-130 N2
Dibromomethane	ug/L	20	19.2	96	70-130 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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Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

DRATORY CONTROL SAMPLE:	3091258					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
benzene	ug/L		22.8	114	70-130	N2
-Xylene	ug/L	20	22.7	114	70-130	N2
yl-tert-butyl ether	ug/L	20	19.9	100	70-130	N2
ylene Chloride	ug/L	20	18.7	93	70-130	N2
lene	ug/L	20	23.0	115	70-130	N2
ene	ug/L	20	23.2	116	70-130	N2
chloroethene	ug/L	20	23.6	118	70-130	N2
ene	ug/L	20	22.3	112	70-130	N2
-1,2-Dichloroethene	ug/L	20	21.4	107	70-130	N2
-1,3-Dichloropropene	ug/L	20	23.2	116	70-130	N2
loroethene	ug/L	20	21.5	108	70-130	N2
chloride	ug/L	20	22.4	112	70-130	N2
ne (Total)	ug/L	40	45.7	114	70-130	N2
omofluorobenzene (S)	%.			97	70-130	
mofluoromethane (S)	%.			95	70-130	
ene-d8 (S)	%.			103	70-130	

MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 3091	259		3091260	)					
			MS	MSD							
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	31.2	26.8	156	134	70-130	15	20 M1,N2
1,1,1-Trichloroethane	ug/L	ND	20	20	25.7	23.2	128	116	70-130	10	20 N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	30.4	26.6	152	133	70-130	14	20 M1,N2
1,1,2-Trichloroethane	ug/L	ND	20	20	28.8	25.3	144	126	70-130	13	20 M1,N2
1,1-Dichloroethane	ug/L	ND	20	20	23.9	21.2	119	106	70-130	12	20 N2
1,1-Dichloroethene	ug/L	ND	20	20	24.8	22.3	124	111	70-130	11	20 N2
1,1-Dichloropropene	ug/L	ND	20	20	29.7	25.7	149	128	70-130	15	20 M1,N2
1,2,3-Trichloropropane	ug/L	ND	20	20	30.2	27.2	151	136	70-130	11	20 M1,N2
1,2,4-Trichlorobenzene	ug/L	ND	20	20	30.7	27.2	153	136	70-130	12	20 M1,N2
1,2-Dichlorobenzene	ug/L	ND	20	20	29.4	25.8	147	129	70-130	13	20 M1,N2
1,2-Dichloroethane	ug/L	ND	20	20	23.5	20.7	118	104	70-130	13	20 N2
1,2-Dichloropropane	ug/L	ND	20	20	25.6	21.8	128	109	70-130	16	20 N2
1,3-Dichlorobenzene	ug/L	ND	20	20	29.1	25.8	145	129	70-130	12	20 M1,N2
1,3-Dichloropropane	ug/L	ND	20	20	27.8	24.1	139	121	70-130	14	20 M1,N2
1,4-Dichlorobenzene	ug/L	ND	20	20	28.7	25.2	144	126	70-130	13	20 M1,N2
2,2-Dichloropropane	ug/L	ND	20	20	28.2	24.3	141	121	70-130	15	20 M1,N2
2-Chlorotoluene	ug/L	ND	20	20	28.7	25.2	143	126	70-130	13	20 M1,N2
4-Chlorotoluene	ug/L	ND	20	20	30.3	26.9	151	134	70-130	12	20 M1,N2
Benzene	ug/L	ND	20	20	24.4	21.4	122	107	70-130	13	20 N2
Bromobenzene	ug/L	ND	20	20	26.4	23.2	132	116	70-130	13	20 M1,N2
Bromodichloromethane	ug/L	ND	20	20	25.5	21.6	128	108	70-130	17	20 N2
Bromoform	ug/L	ND	20	20	30.1	26.3	150	131	70-130	13	20 M0,N2
Bromomethane	ug/L	ND	20	20	28.2	23.2	141	116	70-130	20	20 M0,N2
Carbon tetrachloride	ug/L	ND	20	20	27.7	24.5	138	122	70-130	12	20 M1,N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

MATRIX SPIKE & MATRIX SP	PIKE DUPLI	CATE: 3091		1400	3091260							
			MS	MSD		1400			0/ 5			
Demonstra		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec	D.D.D.	Max	0
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Chlorobenzene	ug/L	ND	20	20	28.3	24.7	141	123	70-130	14	20	M1, N2
Chloroethane	ug/L	ND	20	20	27.4	23.3	137	116	70-130	16	20	M1, N2
Chloroform	ug/L	ND	20	20	22.1	18.9	111	95	70-130	16	20	N2
Chloromethane	ug/L	ND	20	20	16.1	14.8	81	74	70-130	9	20	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20	25.4	22.0	127	110	70-130	14	20	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20	28.5	24.1	142	121	70-130	17	20	M1, N2
Dibromochloromethane	ug/L	ND	20	20	29.4	25.5	147	128	70-130	14	20	M1, N2
Dibromomethane	ug/L	ND	20	20	23.8	20.3	119	102	70-130	16	20	N2
Ethylbenzene	ug/L	ND	20	20	28.2	25.0	141	125	70-130	12	20	M1, N
m&p-Xylene	ug/L	ND	20	20	58.0	50.9	290	255	70-130	13	20	M1, N
Methyl-tert-butyl ether	ug/L	ND	20	20	24.1	21.5	120	108	70-130	11	20	N2
Methylene Chloride	ug/L	ND	20	20	20.7	18.6	104	93	70-130	11	20	N2
o-Xylene	ug/L	ND	20	20	29.2	24.8	146	124	70-130	16	20	M1, N
Styrene	ug/L	ND	20	20	28.8	24.7	144	124	70-130	15	20	M1, N2
Tetrachloroethene	ug/L	ND	20	20	29.1	25.8	146	129	70-130	12	20	M1, N2
Toluene	ug/L	ND	20	20	27.9	24.5	140	123	70-130	13	20	M1, N2
trans-1,2-Dichloroethene	ug/L	ND	20	20	25.7	22.9	128	115	70-130	11	20	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20	27.6	24.5	138	123	70-130	12	20	M1, N
Trichloroethene	ug/L	ND	20	20	26.1	23.2	130	116	70-130	12	20	N2
Vinyl chloride	ug/L	ND	20	20	21.0	18.7	105	94	70-130	12	20	N2
Xylene (Total)	ug/L	ND	40	40	87.2	75.7	218	189	70-130	14	20	MS,N
4-Bromofluorobenzene (S)	%.						95	96	70-130			
Dibromofluoromethane (S)	%.						92	93	70-130			
Toluene-d8 (S)	%.						103	104	70-130			

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#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

#### **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**

Date: 04/21/2022 11:04 AM

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated
	samples may be biased high.

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

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313426

Date: 04/21/2022 11:04 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313426001	DW-7	EPA 200.8	671085	EPA 200.8	671359
50313426001	DW-7	EPA 245.1	671366	EPA 245.1	671891
50313426001	DW-7	EPA 524.2	671276		

Pace Analytical*	Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields																				
Company: Mundell and Associates,	Inc.		Billing Infor	mation:						1			ALL	BOL	DO	UTLIN	IED A	AREA	Sare	for LAB USE ONLY	
Address: 110 5 Downey Ave, Indian	napolis, IN 4621	.9	11051	Downey A	ve, Indianap	olis, IN 462	19				_	-	1000	1000	-	е Туре	2000		-	b Project Manager:	
Report To: Luke Johnstone			Email To: L	johnston	e@mundella	ssociates.c	om			1000	3 servation	8 ve Type	o es: (1) n	itric a	id, (2) s	sulfuric a	cid, (3) h	ydroch	loric acid	d, (4) sodium hydroxide, (5) zinc acetate,	
Сору То:			Site Collect	tion Info/		Muncie,	Indiana	1						D) TSP	, (U) Un				DI water		
Customer Project Name/Number: M20032 Muncie Phase II			100000	County/Cir Muncie	•	Zone Coll		X]ET		Hg)				Ana	lyses	8	T	П	La	b Profile/Line: b Sample Receipt Checklist: stody Seals Present/Intact Y N NA	
Phone: 317-630-9060	Site/Facility IC	) #:	-		Compliano		_		$\Box$	H		1			1		- 1			stody Signatures Present Y N NA	
Email: Ljohnstone@mundellassocia	tes.com				[ ] Yes	[]No			1	245.1 for		23		100			- 1	1		llector Signature Present Y N NA	
Collected By (print):	Purchase Ord	er#:			DW PWS II	D#:			1	45.		10.0					- 10	0.5		ttles Intact Y N NA rrect Bottles Y N NA	
Luke Johnstone	Quote #:				DW Location	on Code:			1	9 2		1		013			- 1	100		fficient Volume Y N NA	
Collected By (signature):	Turnaround D	ate Requir	ed:		Immediate [x] Yes	Packed	on Ice:		Glass (G)	200.8 (and									Vo	mples Received on Ice Y N NA A - Headspace Acceptable Y N NA	
Sample Disposal: [x] Dispose as appropriate [] Return [] Archive:	Rush: (Exped [ ]Same I [ ]2 Day [ ]4 Day	Day [ ] N [ ] 3 Day	- F-10 - F-11		Field Filter [ ] Yes Analysis:	ed (if appli	icable):		ö	EPA	VOC's full list via EPA 524.2		1						Sa Re Cl Sa	DA Regulated Soils Y N NA mples in Holding Time Y N NA sidual Chlorine Present Y N NA Strips; mple pH Acceptable Y N NA	
[ ]Hold:	1								Pla	eta	9 6	IS.	37.			1110	- 1			Strips: Y N NA	
<ul> <li>Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL</li> </ul>							).		Type:	RA 8 N	Il list v	EPA 505	via EPA 537.1	1					Le	ad Acetate Strips:	
Customer Sample ID	Matrix *	Comp/ Grab	Collect Composi Date	ted (or ite Start) Time	Compo	site End Time	Res	# of Ctns	Container Type: Plastic (P)	Total RCRA 8 Metals via	VOC's fu	PCB via	PFAS via							B USE ONLY: b Sample # / Comments:  See Scup	
DW-7 (MS/MSD)	DW/GW	Grab	4/6/22	1300				13	G/P	X	Х									20 000	
											7										
			4			7.1															
Customer Remarks / Special Condition VOC full list, Total RCRA 8 Metal All sampled via drinking water in	ls	Hazards:	Type of Ice Packing Ma	A Marie	Wet ed:	Blue	Dry	None			Lab	Tracki	ng#:	3		hours)	: Y	N 1	N/A	LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm ID#: Cooler 1 Temp Upon Receipt: oC	
All sampled via drinking water in	netrious		Radchem s	ample(s)	screened (<5	00 cpm):	Y 1	N NA			100.000	DEX	UP			Courie	er Pac	e Cour	ier	Cooler 1 Therm Corr. Factor: of Cooler 1 Corrected Temp: oC Comments:	
Relinguished by/Company: (Signate	ure)		-15 - 1	115	Received b	y/Company	v: (Signa	iture)	-0	مد	-	Date/	Time:	2	1115	Table	TTIL LAE	B USE (	ONLY	foe scur	
Relinquished by/Company: (Signatu	ure) —Pab	1.	/Time:	120	Received by	111	myany: (Signature)  Date/Time:  4-8-22 12:10  Prelogin:				Trip Blank Received: Y N NA HCL MeOH TSP Other										
Relinquished by/Company: (Signatu			e/Time:		Received b						_	Date/			7	PM: PB:	Pin		Non Conformance(s): Page: YES / NO of: Page 17 of		

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

Pace Analytical"

## SAMPLE CONDITION UPON RECEIPT FORM

I. Courier:  FED EX UPS CLIENT PACE		SPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	▼ Bubbl	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	No				□None	☐ Other		
If yes)Seals Intact: 🔲 Yes 🔲 No (leave blank if r	no seals w	ere prese	nt)	1				
3. Thermometer: 123456 ABCOEF				6. Ice Type: Wet	☐ Blue ☐ None			
4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/0.1 Temp should be above freezing to 6°C (Initial/Corrected)				7. If temp. is over 6°C or	under 0°C, was the PM	notified?:	∵ Yes	
All dis	crepanci	es will be	written out in the	comments section below.				
	Yes	No				Yes	No	N/A
JSDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, DK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	CHECKED?: excep	ding acid/base pres. Have be ptions: VOA, coliform, LLHg, ptum cap or preserved with H	O&G, and any	1		
Short Hold Time Analysis (48 hours or less)? Analysis:		/	HNO3 (<2) H2SO	4 (<2) NaOH (>10) NaOH/Z te to pH recommendations will t	nAc (>9) be noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	me:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	1	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			/
Custody Signatures Present?	/		Headspace Wiscon	sin Sulfide?			,	/
Containers Intact?:	1		Headspace in VOA See Containter Cou	Vials (>6mm): unt form for details		Present	Absent	No VOA Via
Sample Label (IDs/Dates/Times) Match COC?: except TCs, which only require sample ID	<b>V</b>		Trip Blank Present	?		III.	/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody	Seals?:				/
COMMENTS:								

COC	PAGE	of !

## **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that	are	out	of	con	formance	٠

		MIL																								mate	re out of	COMOTH	ance
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			9																2							W7			
2															3														
3																													
4	1						1	1 = 1												7								1 = 1	-
5																													
6																													
7									211						1-		14												
8																													
9	11						1 1							=		HE						2.2							
10																													
11				1					1 7											100									
12				20.00	-									-1			_					7						J. I.	

#### Container Codes

	Gla				
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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

## Plastic / Misc.

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

Syringe Kit	LL Cr+6 sampling kit
-------------	----------------------

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
50313424001	DW-8	Drinking Water	04/06/22 13:05	04/08/22 12:50	



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313424001	DW-8	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Lab Sample ID  Method  Parameters  50313424001  DW-8		Result	Units	Report Limit	Analyzed	Qualifiers
50313424001	DW-8					
EPA 200.8	Barium	503	ug/L	4.0	04/19/22 07:14	N2
EPA 200.8	Lead	9.2	ug/L	1.0	04/19/22 05:06	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

Sample: DW-8	Lab ID:	50313424001	Collected:	04/06/2	22 13:05	Received: 04	/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical N	Method: EPA 20	00.8 Prepara	tion Met	thod: EP	A 200.8			
	Pace Analy	tical Services -	Indianapolis						
Arsenic	ND	ug/L		1.0	1	04/15/22 02:00	04/19/22 05:06	7440-38-2	N2
Barium	503	0		4.0	4	04/15/22 02:00			N2
Cadmium	ND	_		0.20	1	04/15/22 02:00			N2
Chromium	ND	J		2.0	1	04/15/22 02:00			N2
Lead	9.2	U		1.0	1	04/15/22 02:00			N2
Selenium	ND	U		2.0	1	04/15/22 02:00			N2
Silver	ND	0		0.50	1	04/15/22 02:00			N2
245.1 Mercury	Analytical N	Method: EPA 24	45.1 Prepara	tion Met	thod: EP	A 245.1			
	Pace Analy	tical Services -	Indianapolis						
Mercury	ND	ug/L		0.20	1	04/19/22 09:33	04/19/22 17:23	7439-97-6	
524.2 MSV	Analytical N	Method: EPA 52	24.2						
	Pace Analy	rtical Services -	Indianapolis						
Benzene	ND	ug/L		0.50	1		04/12/22 21:30	71-43-2	N2
Bromobenzene	ND	-		0.50	1		04/12/22 21:30	108-86-1	N2
Bromodichloromethane	ND	_		1.0	1		04/12/22 21:30	75-27-4	N2
Bromoform	ND	-		1.0	1		04/12/22 21:30	75-25-2	N2
Bromomethane	ND	-		5.0	1		04/12/22 21:30	74-83-9	N2
Carbon tetrachloride	ND	_		0.50	1		04/12/22 21:30	56-23-5	N2
Chlorobenzene	ND	_		0.50	1		04/12/22 21:30	108-90-7	N2
Chloroethane	ND	ug/L		0.50	1		04/12/22 21:30	75-00-3	N2
Chloroform	ND	ug/L		1.0	1		04/12/22 21:30	67-66-3	N2
Chloromethane	ND	ug/L		1.0	1		04/12/22 21:30	74-87-3	N2
2-Chlorotoluene	ND	ug/L		1.0	1		04/12/22 21:30	95-49-8	N2
4-Chlorotoluene	ND	ug/L		0.50	1		04/12/22 21:30	106-43-4	N2
Dibromochloromethane	ND	ug/L		1.0	1		04/12/22 21:30	124-48-1	N2
Dibromomethane	ND	ug/L		0.50	1		04/12/22 21:30	74-95-3	N2
1,2-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:30	95-50-1	N2
1,3-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:30	541-73-1	N2
1,4-Dichlorobenzene	ND	ug/L		0.50	1		04/12/22 21:30	106-46-7	N2
1,1-Dichloroethane	ND	ug/L		0.50	1		04/12/22 21:30	75-34-3	N2
1,2-Dichloroethane	ND	ug/L		0.50	1		04/12/22 21:30	107-06-2	N2
1,1-Dichloroethene	ND	ug/L		0.50	1		04/12/22 21:30	75-35-4	N2
cis-1,2-Dichloroethene	ND	Ū		0.50	1		04/12/22 21:30		N2
trans-1,2-Dichloroethene	ND	Ū		0.50	1		04/12/22 21:30		N2
1,2-Dichloropropane	ND	Ū		0.50	1		04/12/22 21:30		N2
1,3-Dichloropropane	ND	Ū		0.50	1		04/12/22 21:30		N2
2,2-Dichloropropane	ND	•		0.50	1		04/12/22 21:30		N2
1,1-Dichloropropene	ND	Ū		1.0	1		04/12/22 21:30		N2
cis-1,3-Dichloropropene	ND	Ū		0.50	1		04/12/22 21:30		N2
trans-1,3-Dichloropropene	ND	Ū		0.50	1		04/12/22 21:30		N2
Ethylbenzene	ND	Ū		0.50	1		04/12/22 21:30		N2
Methylene Chloride	ND	-		2.5	1		04/12/22 21:30		N2
Methyl-tert-butyl ether	ND	ug/L		1.0	1		04/12/22 21:30	1634-04-4	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

Sample: DW-8	Lab ID: 50313424001		Collected: 04/06/2	ollected: 04/06/22 13:05		4/08/22 12:50 I	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
Styrene	ND	ug/L	0.50	1		04/12/22 21:30	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 21:30	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 21:30	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 21:30	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 21:30	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 21:30	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:30	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:30	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 21:30	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 21:30	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 21:30	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 21:30	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 21:30	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 21:30	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/12/22 21:30	460-00-4	
Dibromofluoromethane (S)	97	%.	70-130	1		04/12/22 21:30	1868-53-7	
Toluene-d8 (S)	107	%.	70-130	1		04/12/22 21:30	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313424

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313424001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313424001

Blank

Result

Reporting

Limit

Analyzed

111

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE: Parameter

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 11:05 AM

Parameter

Units ug/L

50313426001

Result

ND

5

5.6

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

Spike

Conc.

Conc.

5

MSD Spike

MS Result

3091669

5.2

MSD Result

MS % Rec

103

% Rec

102

111

MSD

% Rec Max **RPD** RPD Limits

Mercury

Units

ug/L

3091670

50313435001

5

Spike

MS

5.1

MS

% Rec

70-130

Qualifiers

20

Qual

Mercury

Units

ug/L

Result

ND

Conc. 5

Result 5.6 % Rec

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

QC Batch: 671085 Analysis Method:
QC Batch Method: EPA 200.8 Analysis Description:

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

EPA 200.8

Associated Lab Samples: 50313424001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313424001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313424001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313424001

		Blank Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2	
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2	
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2	
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2	
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2	
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2	
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2	
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2	
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2	
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2	
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2	
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313424001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits Qualif	iers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130 N2	
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130 N2	
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130 N2	
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130 N2	
1,1-Dichloroethane	ug/L	20	19.1	96	70-130 N2	
1,1-Dichloroethene	ug/L	20	20.8	104	70-130 N2	
1,1-Dichloropropene	ug/L	20	21.9	109	70-130 N2	
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130 N2	
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130 N2	
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130 N2	
1,2-Dichloroethane	ug/L	20	18.8	94	70-130 N2	
1,2-Dichloropropane	ug/L	20	19.7	99	70-130 N2	
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130 N2	
1,3-Dichloropropane	ug/L	20	22.0	110	70-130 N2	
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130 N2	
2,2-Dichloropropane	ug/L	20	20.2	101	70-130 N2	
2-Chlorotoluene	ug/L	20	22.4	112	70-130 N2	
4-Chlorotoluene	ug/L	20	22.5	113	70-130 N2	
Benzene	ug/L	20	19.7	99	70-130 N2	
Bromobenzene	ug/L	20	20.7	103	70-130 N2	
Bromodichloromethane	ug/L	20	20.3	101	70-130 N2	
Bromoform	ug/L	20	23.2	116	70-130 N2	
Bromomethane	ug/L	20	16.7	84	70-130 N2	
Carbon tetrachloride	ug/L	20	21.5	108	70-130 N2	
Chlorobenzene	ug/L	20	22.1	110	70-130 N2	
Chloroethane	ug/L	20	18.1	91	70-130 N2	
Chloroform	ug/L	20	17.9	90	70-130 N2	
Chloromethane	ug/L	20	17.4	87	70-130 N2	
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130 N2	
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130 N2	
Dibromochloromethane	ug/L	20	22.5	112	70-130 N2	
Dibromomethane	ug/L	20	20.6	103	70-130 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**

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

#### **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**

Date: 04/21/2022 11:05 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313424

Date: 04/21/2022 11:05 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313424001	DW-8	EPA 200.8	671085	EPA 200.8	671359
50313424001	DW-8	EPA 245.1	671366	EPA 245.1	671891
50313424001	DW-8	EPA 524.2	670791		

Pace Analytical*		CHAIN-OF-CUSTODY Analytical Request Document  Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields  Billing Information:										LAB	JSE ON	ILY- Af	fix Wor		/Login L IJL Log-i			List Pace Workorder Number or ere
Company: Mundell and Associat	es, Inc.		-									1	ALLI	BOLL	ou	TLIN	ED AF	REAS	Sare	for LAB USE ONLY
Address: 110 S Downey Ave, Ind	ianapolis, IN 4621	9	110 S Downey Ave, Indianapolis, IN 46219								_	ntainer		rvative		7 11000			Project Manager:	
Report To: Luke Johnstone			Email 10: Lightstone@mundellassociates.com						1 ** Pre		8 ve Type	O es: (1) n	itric aci	d, (2) sul	furic aci	d, (3) hyd	rochlo	ric acid,	(4) sodium hydroxide, (5) zinc acetate,	
Сору То:			Site Collecti	ion Info/A W Fleetw		Muncie,	Indiana		-								ulfate, (9 , (0) Oth			scorbic acid, (B) ammonium sulfate,
Customer Project Name/Number M20032 Muncie Phase II	**		State: C	County/Cit	y: Tim	e Zone Coll	ected:	2.47		1				Anal	yses				Lab	Profile/Line: Sample Receipt Checklist:
Phone: 317-630-9060 Email: Ljohnstone@mundellasso	Site/Facility ID	#:	1 10 / 10	nuncie	Compliand	te Monitori		A JEI		1 for Hg)									Cus	stody Seals Present/Intact Y N NA stody Signatures Present Y N NA Hector Signature Present Y N NA
Collected By (print): Luke Johnstone	Purchase Orde	er#:			DW PWS I	D#:				d 245.1				W					Cor	tles Intact Y N NA rect Bottles Y N NA ficient Volume Y N NA
Collected By (signature):	Turnaround D	ate Require	ed:		-	ely Packed	on Ice:		Glass (G)	0.8 (an									San	mples Received on Ice Y N NA A - Headspace Acceptable Y N NA
Sample Disposal.  [x ] Dispose as appropriate  [ ] Return  [ ] Archive:	Rush: (Expedi [ ] Same D [ ] 2 Day [ ] 4 Day	Day [ ] N [ ] 3 Day				red (if appli	cable):		ŏ	als via EPA 200.8 (and	VOC's full list via EPA 524.2		1						Sam Res Cl Sam	AR Regulated Soils Y N N.  sples in Holding Time Y N N.  sidual Chlorine Present Y N N.  Strips:  sple pH Acceptable Y N N.  Strips:
Matrix Codes (Insert in Matrix Product (P), Soil/Solid (SL), Oil (					The second second		),		Type: Pla	A 8 Metals	I list via	via EPA 505	EPA 537.1			18			Sul	fide Present Y N No od Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab	Collect Composi Date		Compo	site End	Res Cl	# of Ctns	Container Type: Plastic (P)	Total RCRA	VOC's ful	PCB via E	PFAS via							B USE ONLY: D Sample # / Comments:
Dw-8	DW/GW	Grab	4/6/2		22.777	Time		4	G/P	X	x									see sur
																			1	
																				0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
Customer Remarks / Special Cor VOC full list, Total RCRA 8 Me		Hazards:	Type of Ice Packing Ma		Wet d:	Blue	Dry	None			1958	RT HO Tracki	-	RESENT	(<72 h	ours):	YN	N/	/A	LAB Sample Temperature Info: Temp Blank Received: Y N I Therm ID#: Cooler 1 Temp Upon Receipt:
All sampled via drinking wate	er methods		Radchem sa	ample(s) s	creened (<5	00 cpm):	Y 1	N NA			110000	ples re	UPS		ient (	Courier	Pace (	Courie	er	Cooler 1 Therm Corr. Factor: Cooler 1 Corrected Temp:
Relinquished by/Company: (Sign	nature)	Pate	e/Time:	115	12	y/Company	1	_	Pa	a		Date/	8/2	2	115	M1 Table	JL LAB U #:	JSE O	NLY	see some
Relinquished by/Company: (Sign	Para	1	e/Time:	125	Received b	y/Company	y: (Signa	iture)				Date/	Time: 7-22	12	9	Acctno Templ Prelog	ate:			Trip Blank Received: Y N NA HCL MeOH TSP Other

Received by/Company: (Signature)

Date/Time:

Relinquished by/Company: (Signature)

PM:

PB:

Non Conformance(s):

YES / NO

Page:

Date/Time:

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

# Pace Analytical

### SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG	E U	SPS 🗌	OTHER	5. Packing Material:	☐ Bubble Wrap	<b>✓</b> Bubbl	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	No				None	☐ Other		
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABC DEF  4. Cooler Temperature: 0.9/0.7 0.2/0.0 0  Temp should be above freezing to 6°C (Initial/Corrected)	if no seals w	vere prese	ent)	6. Ice Type: Wet 7. If temp. is over 6°C or			☐ Yes	i □ No
All	discrepanci	es 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)	1771	/	CHECKED?: exc	eding acid/base pres. Have be eptions: VOA, coliform, LLHg, eptum cap or preserved with H	O&G, and any	1		
Short Hold Time Analysis (48 hours or less)? Analysis:		1	(4NO3 (<2) H2S	O4 (<2) NaOH (>10) NaOH/Z nce to pH recommendations will b	nAc (>9) be noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		<b>✓</b>	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?	/		Headspace Wisco	nsin Sulfide?				/
Containers Intact?:	1		Headspace in VO See Containter Co	A Vials (>6mm); ount form for details		Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Presen	t?			/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custoo	ly Seals?:				/
COMMENTS:								

<b>COC PAGE</b>	of	_1_
-----------------	----	-----

### **Sample Container Count**

DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance \*\*

		NIL	A					4	2						2	5					3					0				comon	
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	Desd	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	врзв	BP3Z	сезн	Syringe Kit			Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3							79									1									WT	/	E	
2																				[ I-								-			
3											-					1															
4																															
5																															
6													_																		
7																															
8																											_				
9										- 17									L												
10																															
11																												1			
12							1					-											- 11								

#### Container Codes

	Gla	SS			
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 HCI 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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

## Plastic / Misc.

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

Syringe Kit	LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313423001	DW-9	Drinking Water	04/06/22 14:20	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313423001	DW-9	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Lab Sample ID	Client Sample ID			_		
Method	Parameters Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313423001	DW-9					
EPA 200.8	Barium	519	ug/L	4.0	04/19/22 07:01	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

Sample: DW-9	Lab ID:	50313423001	Collected: 04	/06/22 14:	20 Received: (	04/08/22 12:50	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Lir	nit DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	05 Preparation N	lethod: EF	A 505			
	Pace Anal	ytical Services -	Ormond Beach					
Chlordane (Technical)	NI	D ug/L	0	.21 1	04/13/22 03:1	8 04/13/22 09:5	0 57-74-9	
PCB-1016 (Aroclor 1016)	NI	•		.11 1		8 04/13/22 09:5		
PCB-1221 (Aroclor 1221)	NI	Ū	C	.11 1	04/13/22 03:1	8 04/13/22 09:5	0 11104-28-2	
PCB-1232 (Aroclor 1232)	NI	_	C	.11 1	04/13/22 03:1	8 04/13/22 09:5	0 11141-16-5	
PCB-1242 (Aroclor 1242)	NI	•	C	.11 1		8 04/13/22 09:5		
PCB-1248 (Aroclor 1248)	NI	ŭ	C	.11 1	04/13/22 03:1	8 04/13/22 09:5	0 12672-29-6	
PCB-1254 (Aroclor 1254)	NI	•		.11 1		8 04/13/22 09:5		
PCB-1260 (Aroclor 1260)	NI	•	C	.11 1	04/13/22 03:1	8 04/13/22 09:5	0 11096-82-5	
PCB, Total	NI	_	C	.11 1		8 04/13/22 09:5		
oxaphene	NI	_		1.1 1		8 04/13/22 09:5		
200.8 MET ICPMS	Analytical	Method: EPA 20	00.8 Preparation	Method: I	EPA 200.8			
	Pace Anal	ytical Services -	Indianapolis					
Arsenic	NI	O ug/L		1.0 1	04/15/22 02:0	0 04/19/22 05:0	1 7440-38-2	N2
Barium	51	•		4.0 4		0 04/19/22 07:0		N2
Cadmium	NI		0	.20 1		0 04/19/22 05:0		N2
Chromium	NI	Ū		2.0 1	04/15/22 02:0	0 04/19/22 05:0	1 7440-47-3	N2
.ead	NI	•		1.0 1	04/15/22 02:0	0 04/19/22 05:0	1 7439-92-1	N2
Selenium	NI	•		2.0 1		0 04/19/22 05:0		N2
Silver	NI	_		.50 1		0 04/19/22 05:0		N2
245.1 Mercury	Analytical	Method: EPA 24	45.1 Preparation	Method: I	EPA 245.1			
•	Pace Anal	ytical Services -	Indianapolis					
Mercury	NI	O ug/L	0	.20 1	04/19/22 09:3	3 04/19/22 17:2	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2					
	•	ytical Services -						
Benzene	NI	O ug/L	0	.50 1		04/12/22 21:0	4 71-43-2	N2
Bromobenzene	NI	O ug/L	0	.50 1		04/12/22 21:0	4 108-86-1	N2
Bromodichloromethane	NI	O ug/L		1.0 1		04/12/22 21:0	4 75-27-4	N2
Bromoform	NI	O ug/L		1.0 1		04/12/22 21:0	4 75-25-2	N2
Bromomethane	NI	O ug/L		5.0 1		04/12/22 21:0	4 74-83-9	N2
Carbon tetrachloride	NI	O ug/L	0	.50 1		04/12/22 21:0	4 56-23-5	N2
Chlorobenzene	NI	O ug/L	0	.50 1		04/12/22 21:0	4 108-90-7	N2
Chloroethane	NI	•		.50 1		04/12/22 21:0		N2
Chloroform	NI	•		1.0 1		04/12/22 21:0	4 67-66-3	N2
Chloromethane	NI	•		1.0 1		04/12/22 21:0		N2
2-Chlorotoluene	NI			1.0 1		04/12/22 21:0		N2
i-Chlorotoluene	NI	•		.50 1		04/12/22 21:0		N2
Dibromochloromethane	NI	•		1.0 1		04/12/22 21:0		N2
Dibromomethane	NI	•		.50 1		04/12/22 21:0		N2
,2-Dichlorobenzene	NI	•		.50 1		04/12/22 21:0		N2
1,3-Dichlorobenzene	NI	•		.50 1		04/12/22 21:0		N2
1,4-Dichlorobenzene	NI	•		.50 1		04/12/22 21:0		N2
1.4-Dichioropenzene								



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

Sample: DW-9	Lab ID: 503	13423001	Collected: 04/06/2	22 14:20	Received: 0	04/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Met	hod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 21:04	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 21:04	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 21:04	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 21:04	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 21:04	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 21:04	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 21:04	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 21:04	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 21:04	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 21:04	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 21:04	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 21:04	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 21:04	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 21:04	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 21:04	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 21:04	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 21:04		N2
Toluene	ND	ug/L	1.0	1		04/12/22 21:04	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 21:04	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:04		N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 21:04		N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 21:04	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 21:04		N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 21:04		N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 21:04		N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 21:04		N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 21:04		N2
Surrogates			3.00	-		,,		
4-Bromofluorobenzene (S)	93	%.	70-130	1		04/12/22 21:04	460-00-4	
Dibromofluoromethane (S)	99	%.	70-130	1		04/12/22 21:04		
Toluene-d8 (S)	105	%.	70-130	1		04/12/22 21:04		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313423

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313423001

50313423001

Blank Result

Reporting Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Units ug/L

5

5.6

3091669

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

MSD

50313426001 Result

ND

MS Spike Spike Conc. Conc.

5

MS MSD Result Result

5.2

5

MS % Rec

MSD % Rec

102

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 11:05 AM

Parameter

3091670

Units

ug/L

Parameter Units

50313435001 Result

Spike Conc.

MS Result

5.6

5.1

MS

103

% Rec

70-130

Mercury

Mercury

ug/L

ND

5

% Rec

Limits 111

Qualifiers 70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313423001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313423001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313423001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313423001

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2	
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2	
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2	
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2	
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2	
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2	
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2	
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2	
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2	
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2	
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2	
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
Toluene	ug/L	ND	1.0	04/12/22 16:47	N2	

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Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313423001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313423

QC Batch: 815516

QC Batch Method: EPA 505

Analysis Method:

EPA 505

Analysis Description:

505 GCS PCB-TOX-TCH

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples: 50313423001

METHOD BLANK: 4477979

Date: 04/21/2022 11:05 AM

Matrix: Water

Associated Lab Samples: 50313423001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

1 A D O D A T O D \	CONTROL	0 4 8 4 D L E	4.477000
LABORATORY	CONTROL	SAMPLE:	4477980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	_
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SP	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4478002						4478003					
	g	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016) PCB-1260 (Aroclor 1260)	ug/L ug/L	ND ND	0.79 0.79	0.78 0.78	0.83 0.76	0.81 0.81	104 96	104 104	70-130 70-130	2 7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

#### **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**

Date: 04/21/2022 11:05 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313423

Date: 04/21/2022 11:05 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313423001	DW-9	EPA 505	815516	EPA 505	815530
50313423001	DW-9	EPA 200.8	671085	EPA 200.8	671359
50313423001	DW-9	EPA 245.1	671366	EPA 245.1	671891
50313423001	DW-9	EPA 524.2	670791		

#### LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or **CHAIN-OF-CUSTODY Analytical Request Document** MTJL Log-in Number Here Pace Analytical\* Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Billing Information: Company: Mundell and Associates, Inc. ALL BOLD OUTLINED AREAS are for LAB USE ONLY 110 S Downey Ave, Indianapolis, IN 46219 Address: 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 8 0 Email To: Ljohnstone@mundellassociates.com Report To: Luke Johnstone \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water 3300 W Fuson Rd Muncie, Indiana Analyses Lab Profile/Line: Time Zone Collected: Customer Project Name/Number: County/City: Lab Sample Receipt Checklist: M20032 Muncie Phase II Muncie Hg) [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA 245.1 for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com ] Yes [ ] No Bottles Intact Purchase Order #: DW PWS ID #: Collected By (print): Correct Bottles Luke Johnstone DW Location Code: Sufficient Volume Quote #: Total RCRA 8 Metals via EPA 200.8 (and Glass (G) Immediately Packed on Ice: Samples Received on Ice Turnaround Date Required: Collected By (signature): VOA - Headspace Acceptable [x] Yes [ ] No USDA Regulated Soils Field Filtered (if applicable): Rush: (Expedite Charges Apply) Sample Disposal Samples in Holding Time 5 [ ] Yes [x] No Residual Chlorine Present x Dispose as appropriate [ ] Same Day [ ] Next Day Container Type: Plastic (P) Cl Strips: Return [ ] 2 Day [ ] 3 Day Sample pH Acceptable EPA 1 Archive: [ ] 4 Day [ ] 5 Day Analysis: pH Strips: ] Hold: VOC's full list via Sulfide Present **EPA 505** Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), EPA Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) via LAB USE ONLY: Collected (or Comp / PCB via Composite End Matrix \* Customer Sample ID Grab Composite Start) Ctns Date Time Date Time X X DW-9 DW/GW 4/6/22 14:20 Grab Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A Type of Ice Used: Wet Blue Dry None VOC full list, Total RCRA 8 Metals, PCB Packing Material Used: Lab Tracking #: Therm ID#:

Y N NA Lead Acetate Strips: Lab Sample # / Comments: LAB Sample Temperature Info: Temp Blank Received: Y N NA Cooler 1 Temp Upon Receipt: oC All sampled via drinking water methods Cooler 1 Therm Corr. Factor: Samples received via: Cooler 1 Corrected Temp: Radchem sample(s) screened (<500 cpm): Y N NA FEDEX UPS Client Courier Pace Courier Comments: MTJL LAB USE ONLY Relinquished by/Company: (Signature) Date/Time: Received by/Company: (Signature) Table #: Date/Time: Date/Time: Acctnum: HCL MeOH TSP Other Template: Prelogin: Non Conformance(s): Date/Time: PM: Page: Relinquished by/Company: (Signature) PB: YES / NO Page 17 of 19

Y N NA

Y N NA

Y N NA

YNNA

YNNA

Y N NA

Y N NA

Y N NA

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

Pace Analytical\*

### SAMPLE CONDITION UPON RECEIPT FORM

f yes)Seals Intact: Yes No (leave blank if no Thermometer: 123456 ABC OEF  Cooler Temperature: 0.9/0.7 0.2/0 0.3/0.\ Temp should be above freezing to 6°C (Initial/Corrected)  All disc	no seals v	were pres	ent)		None	☐ Other	_	_
All dis				6. Ice Type: Wet  7. If temp. is over 6°C or u	☐ Blue ☐ None nder 0°C, was the PM	notified?	: 🗌 Yes	□ No
	Yes	ies will be	written out in the	comments section below.		Yes		
SDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, IK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	163	/	All containers needing acid/base pres. Have been  CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.				No	N/A
hort Hold Time Analysis (48 hours or less)? nalysis:		/	Circle: HNO3 (<2) H2SO Any non-conformand count form	4 (<2) NaOH (>10) NaOH/Zr se to pH recommendations will be	nAc (>9) e noted on the container	J		
ime 5035A TC placed in Freezer or Short Holds To Lab	ne:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
ush TAT Requested (4 days or less):		1	Residual Chlorine Check (Total/Amenable/Free Cyanide)					1
ustody Signatures Present?	/	77.	Headspace Wiscon	sin Sulfide?				/
ontainers Intact?:	1		Headspace in VOA See Containter Cou	Vials (>6mm): unt form for details	_	Present	Absect	No VOA Vials Sent
ample Label (IDs/Dates/Times) Match COC?: xcept TCs, which only require sample ID	1		Trip Blank Present	?			/	
xtra labels on Terracore Vials? (soils only)			Trip Blank Custody	Seals?:				/
OMMENTS:								

COC	PAGE	1 of !

## **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that a	are o	out of	confe	ormance '
--------	-------	--------	-------	-----------

		KIL																								mat	are out	or contorn	lance
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9V	Design	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3 H2SO pH <2	/ NaOH/ 4 ZNAc pH >9	NaOH pH>10
1			3			3													1							w	-		
2									+																				
3			1 10													11 1													
4																													
5																													
6																													
7												9-8-																	
8																													
9																						1							
10																													
11																													
12														1															

#### Container Codes

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

## Plastic / Misc.

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

Syringe Kit LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures





#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

NOTH DAKOIA CERTIFICATION #. N-2

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313422001	DW-10	Drinking Water	04/06/22 14:55	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313422001	DW-10	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313422001	DW-10					
EPA 200.8 EPA 200.8	Barium Lead	9.3 1.8	ug/L ug/L	_	04/19/22 04:32 04/19/22 04:32	



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

Sample: DW-10	Lab ID:	50313422001	Collected:	04/06/2	22 14:55	Received: 04	1/08/22 12:50	Matrix: Drinking	g Water
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	05 Preparatio	n Meth	od: EPA	505			
	Pace Anal	ytical Services -	Ormond Bea	ich					
Chlordane (Technical)	NI	D ug/L		0.21	1	04/13/22 03:18	04/13/22 10:07	7 57-74-9	
PCB-1016 (Aroclor 1016)	NI	•		0.11	1	04/13/22 03:18	04/13/22 10:07	12674-11-2	
PCB-1221 (Aroclor 1221)	NI	•		0.11	1	04/13/22 03:18	04/13/22 10:07	11104-28-2	
PCB-1232 (Aroclor 1232)	NI	_		0.11	1	04/13/22 03:18	04/13/22 10:07	7 11141-16-5	
PCB-1242 (Aroclor 1242)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 10:07	53469-21-9	
PCB-1248 (Aroclor 1248)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 10:07	12672-29-6	
PCB-1254 (Aroclor 1254)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 10:07	11097-69-1	
PCB-1260 (Aroclor 1260)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 10:07	11096-82-5	
PCB, Total	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 10:07	1336-36-3	
oxaphene	NI	O ug/L		1.1	1	04/13/22 03:18	04/13/22 10:07	8001-35-2	
200.8 MET ICPMS	Analytical	Method: EPA 20	00.8 Preparat	tion Met	thod: EP	A 200.8			
	Pace Anal	ytical Services -	Indianapolis						
Arsenic	NI	O ug/L		1.0	1	04/15/22 02:00	04/19/22 04:32	7440-38-2	N2
Barium	9.	-		1.0	1	04/15/22 02:00	04/19/22 04:32	2 7440-39-3	N2
Cadmium	NI			0.20	1		04/19/22 04:32		N2
Chromium	NI	•		2.0	1	04/15/22 02:00	04/19/22 04:32	2 7440-47-3	N2
.ead	1.	•		1.0	1	04/15/22 02:00	04/19/22 04:32	7439-92-1	N2
Selenium	NI	•		2.0	1	04/15/22 02:00	04/19/22 04:32	7782-49-2	N2
Silver	NI	_		0.50	1	04/15/22 02:00	04/19/22 04:32	2 7440-22-4	N2
245.1 Mercury	Analytical	Method: EPA 24	15.1 Preparat	tion Met	thod: EP	A 245.1			
,		ytical Services -							
Mercury	NI	O ug/L		0.20	1	04/19/22 09:33	04/19/22 17:18	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2						
,22	•	ytical Services -							
Benzene	NI	O ug/L		0.50	1		04/12/22 20:38	3 71-43-2	N2
Bromobenzene	NI	J		0.50	1		04/12/22 20:38		N2
Bromodichloromethane	NI	J		1.0	1		04/12/22 20:38	3 75-27-4	N2
Bromoform	NI	J		1.0	1		04/12/22 20:38		N2
Bromomethane	NI	J		5.0	1		04/12/22 20:38		N2
Carbon tetrachloride	NI	J		0.50	1		04/12/22 20:38		N2
Chlorobenzene	NI	J		0.50	1		04/12/22 20:38		N2
Chloroethane	NI	•		0.50	1		04/12/22 20:38		N2
	NI	•		1.0	1		04/12/22 20:38		N2
niorotorm	NI	-		1.0	1		04/12/22 20:38		N2
					1		04/12/22 20:38		N2
Chloromethane				1.0					
Chloromethane 2-Chlorotoluene	NI	O ug/L		1.0 0.50				3 106-43-4	N2
Chloromethane 2-Chlorotoluene 4-Chlorotoluene	NI NI	O ug/L O ug/L		0.50	1		04/12/22 20:38		N2 N2
Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	NI NI NI	O ug/L O ug/L O ug/L		0.50 1.0	1 1		04/12/22 20:38 04/12/22 20:38	3 124-48-1	N2
Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane	NI NI NI	0 ug/L 0 ug/L 0 ug/L 0 ug/L		0.50 1.0 0.50	1 1 1		04/12/22 20:38 04/12/22 20:38 04/12/22 20:38	3 124-48-1 3 74-95-3	N2 N2
Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene	NI NI NI NI	0 ug/L 0 ug/L 0 ug/L 0 ug/L 0 ug/L		0.50 1.0 0.50 0.50	1 1 1 1		04/12/22 20:38 04/12/22 20:38 04/12/22 20:38 04/12/22 20:38	3 124-48-1 3 74-95-3 3 95-50-1	N2 N2 N2
Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	NI NI NI	0 ug/L 0 ug/L 0 ug/L 0 ug/L 0 ug/L 0 ug/L 0 ug/L 0 ug/L		0.50 1.0 0.50	1 1 1		04/12/22 20:38 04/12/22 20:38 04/12/22 20:38	3 124-48-1 3 74-95-3 3 95-50-1 3 541-73-1	N2 N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

Sample: DW-10	Lab ID: 503	13422001	Collected: 04/06/2	22 14:55	Received: 0	04/08/22 12:50 N	Matrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 20:38	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:38	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:38	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:38	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:38	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:38	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:38	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 20:38	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 20:38	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 20:38	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 20:38	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 20:38	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 20:38	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 20:38	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 20:38	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 20:38	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 20:38	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 20:38	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 20:38	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 20:38	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 20:38		N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 20:38	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 20:38		N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 20:38	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 20:38		N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 20:38		N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 20:38		N2
Surrogates	-	· 3· -						
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/12/22 20:38	460-00-4	
Dibromofluoromethane (S)	96	%.	70-130	1		04/12/22 20:38	1868-53-7	
Toluene-d8 (S)	107	%.	70-130	1		04/12/22 20:38		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313422

QC Batch:

QC Batch Method:

671366

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313422001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313422001

Parameter

Units

Reporting

Limit

Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

111

LABORATORY CONTROL SAMPLE:

3091667

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Units ug/L

50313426001

Result

ND

Conc. 5

5

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

Conc.

Conc.

MSD MS Spike Spike

5

MS Result

5.6

3091669

5.2

5

MSD Result

MS % Rec

MSD % Rec

102

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 03:43 PM

Parameter

3091670

Parameter Units

Units

ug/L

50313435001 Result

Spike Conc.

MS Result

5.1

MS % Rec

103

% Rec

70-130

Qualifiers

Mercury

Mercury

ug/L

ND

5.6

111

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313422001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226				o. 5	
Doromotor	Units	Spike	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Parameter	Onits	Conc.	Resuit	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	227		3090228							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3090229												
			MS	MSD								
	;	50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	 ND	40	40	39.9	39.5	99	98	70-130		20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313422001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313422001

Democratic	11.26	Blank	Reporting	A	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313422001

5 .	11.5	Blank	Reporting		0 ""
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313422

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LABORATORY CONTROL SAMPL	E: 3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	<b>N</b> 2
m&p-Xylene	ug/L	40	45.2	113	70-130 I	<b>N</b> 2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130 I	<b>N</b> 2
Methylene Chloride	ug/L	20	17.6	88	70-130 I	<b>N</b> 2
o-Xylene	ug/L	20	22.0	110	70-130 I	<b>N</b> 2
Styrene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Tetrachloroethene	ug/L	20	22.5	112	70-130 I	<b>N</b> 2
Toluene	ug/L	20	21.0	105	70-130 I	<b>N</b> 2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130 I	<b>N</b> 2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Trichloroethene	ug/L	20	20.2	101	70-130 I	<b>N</b> 2
Vinyl chloride	ug/L	20	16.3	81	70-130 I	<b>N</b> 2
Xylene (Total)	ug/L	60	67.2	112	70-130 I	<b>N</b> 2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 50313422001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313422001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY	CONTROL	SAMPLE:	4477980

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Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	PIKE DUPLI	ICATE: 4478	002		4478003	i						
			MS	MSD								
		92597558001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

#### **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**

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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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313422

Date: 04/21/2022 03:43 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313422001	DW-10	EPA 505	815516	EPA 505	815530
50313422001	DW-10	EPA 200.8	671085	EPA 200.8	671359
50313422001	DW-10	EPA 245.1	671366	EPA 245.1	671891
50313422001	DW-10	EPA 524.2	670791		

Pace Analytical*		sample via this Condition	chain of custody found at: https:/	STODY Analytical Request Document  f custody constitutes acknowledgment and acceptance of the Pace Terms and at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf vis a LEGAL DOCUMENT - Complete all relevant fields ag Information:					17.	LAB	JSE ON	ILY- Aff	ix Work			abel He n Numb		List Pace Workorder Number or ere				
Company: Mundell and Associates	, Inc.		Billing Infor	mation:									ALL	BOLD	OUT	LINE	DAR	REAS	AS are for LAB USE ONLY			
Address: 110 S Downey Ave, Indian	napolis, IN 4621	.9	11050	Downey Av	ve, Indianap	oolis, IN 46	5219				_	Cor	ntainer	Preser	vative T	ype **			Lab I	Project Manager:		
Report To: Luke Johnstone			Email To: L	johnstone	@mundella	ssociates.	.com		T				Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc									
Сору То:			Site Collect 3500 V	ion Info/A N Fuson		Muncie	, Indiana	1						D) TSP, (	J) Unpre				vater_	scorbic acid, (B) ammonium sulfate,		
Customer Project Name/Number: M20032 Muncie Phase II			The state of the s	ounty/City Juncie	,	e Zone Co	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	X]ET		(8)				Analy	ses				Lab	Profile/Line: Sample Receipt Checklist: tody Seals Present/Intact Y N NA		
Phone: 317-630-9060	Site/Facility ID	#:			Complian		-			for Hg)		- 24		(3)					Cust	tody Signatures Present Y N NA		
Email: Ljohnstone@mundellassocia	-				[ ] Yes	[ ] No	)		1	-							-	8		lector Signature Present Y N NA tles Intact Y N NA		
Collected By (print): Luke Johnstone	Purchase Ord Quote #:	er#:			DW PWS I					nd 245.		7.8							Corn	rect Bottles Y N NA ficient Volume Y N NA		
Collected By signature	Turnaround D	ate Requir	ed:	Immediately Packed on Ice:  [x] Yes [] No  Field Filtered (if applicable):		0.8 (ar								0	VOA	ples Received on Ice Y N NA - Headspace Acceptable Y N NA A Regulated Soils Y N NA						
Sample Disposal: [x ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: (Exped [ ] Same ( [ ] 2 Day [ ] 4 Day	Day [ ] N [ ] 3 Day [ ] 5 Day	ext Day		Field Filte [ ] Yes Analysis:	[ x ] No	0		6		RCRA 8 Metals via EPA 200.8 (and	a EPA 524.2	10	537.1						Samp Resi Cl S Samp pH S	A Regulated Soils Y N NA ples in Holding Time Y N NA idual Chlorine Present Y N NA Strips: ple pH Acceptable Y N NA Strips: fide Present Y N NA	
<ul> <li>Matrix Codes (Insert in Matrix bose Product (P), Soil/Solid (SL), Oil (OL</li> </ul>					THE RESERVED		N),		ype: B	1 8 M	list vi	A 50	PA 5				1			d Acetate Strips:		
Customer Sample ID	Matrix *	Comp / Grab	Collect Composi Date	ed (or	Compo	cor (V), Other (OT)  Composite End Res #	# of Ctns	ontainer T	Total RCR/	VOC's full list via EPA	PCB via EPA 505	PFAS via EPA							USE ONLY: Sample # / Comments:			
DIJ -ID (n. CIMCD	DW/GW	Grab	4/6/22		1 - 2 - 2	1	1	13	G/P	X	X	X			-			-	Н	See scur		
DW-10 (MS/MSP		Grab	110100																			
							1	-							-		-					
																	0.00					
																	100					
	-					-	+	-	-	1					-		700					
				1 1												=1				Maritime and the second		
Customer Remarks / Special Condi VOC full list, Total RCRA 8 Meta		Hazards:	Type of Ice Packing Ma		Wet d:	Blue	Dry	None			10000	RT HO	98630	RESENT	(<72 ho	urs):	YN	N/A		LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm ID#:		
All sampled via drinking water n	methods		Radchem sa	ample(s) s	creened (<	500 cpm):	Υ 1	N NA	v 1		IN PERCON	ples re	eceived UP:	d via: S Cli	ent C	ourier	Pace (	Courier		Cooler 1 Temp Upon Receipt: OC Cooler 1 Therm Corr. Factor: OC Cooler 1 Corrected Temp: OC Comments:		
Relinquished by/Company: (Signat	ure)	Date	e/Time:	1115	Received t	oy/Compa	ny: (Signa	iture)		Pac		Date/	Time:	2111		MT.		JSE ONI	LY	see scur		
Relinquished by/Company: (Signat	ure) Pac	100	e/Time:	1250	Received to	oy/Compa	ny: (Signa	iture)			- 1	Date/		2160		Acctnu Templa Prelogi	te:			Trip Blank Received: Y N NA HCL MeOH TSP Other		
Relinquished by/Company: (Signat	1	_	e/Time:		Received b	oy/Compa	ny: (Signa	ture)			_	Date/				PM: PB:				Non Conformance(s): Page: YES / NO of:		

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

# Pace Analytical

## SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PAC 2. Custody Seal on Cooler/Box Present: ☐ Yes	/	SPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	☑ Bubble Bags ☐ Other						
(If yes)Seals Intact: Yes No (leave blank 3. Thermometer: 123456 ABC 6)EF  4. Cooler Temperature: 0.9/0,7 0.3/0,\ 0.2 Temp should be above freezing to 6°C (Initial/Corrected)		were pres	ent)	6. Ice Type: Wet 7. If temp. is over 6°C or	☐ Blue ☐ None under 0°C, was the PM	notified?:	:□ Yes	□ No				
All	discrepanc	ies will be	written out in the	comments section below.								
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	CHECKED?: exce container with a se	ding acid/base pres. Have be options: VOA, coliform, LLHg, optium cap or preserved with H	O&G, and any							
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Any non-conforman	04 (<2) NaOH (>10) NaOH/Z ce to pH recommendations will b	nAc (>9) be noted on the container	1						
Time 5035A TC placed in Freezer or Short Holds To Lab  Time:  Residual Chlorine Check (SVOC 625 Pest/PCB 608)							Absent	N/A				
Rush TAT Requested (4 days or less):		<b>/</b>	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			1				
Custody Signatures Present?	/		Headspace Wisco	nsin Sulfide?				/				
Containers Intact?:	1		Headspace in VOA See Containter Co	Vials (>6mm): unt form for details		Present	Absept	No VOA Vials Se				
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	V		Trip Blank Present	?			/					
Extra labels on Terracore Vials? (soils only)			Trip Blank Custod	y Seals?:				/				
COMMENTS:												

COC PAGE	of
----------	----

## **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that	are	out	of	con	formance	*

		IVIL																		100						AT FEAT	ale out o		
COC Line Item	WGFU	R	DG9H	VOA. VIAL HS (>6mm)	VG9U	реэд	VG9T	AGOU	AG1H	AG10	AGSU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3			9					17	Œ							1							w	/		
2																													
3																													
4							- 3																						
5																									1	$\perp$			
6																													
7																													
8	1-1																												. 1
9			1 1																										
10																													
11																													
12																	1					11.1							

### Container Codes

	Gla	SS			
DG9H	40mL HCI 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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

## Plastic / Misc.

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

		_
Syringe Kit	LL Cr+6 sampling kit	

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification: FL NELAC Re

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313421001	DW-11	Drinking Water	04/06/22 15:28	04/08/22 12:50
50313421002	DUP	Drinking Water	04/06/22 08:00	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Sample ID	Method	Analysts	Analytes Reported	Laboratory
DW-11	EPA 505	JPD	10	PASI-O
	EPA 200.8	DMT	7	PASI-I
	EPA 245.1	EAE	1	PASI-I
	EPA 524.2	BES	48	PASI-I
DUP	EPA 505	JPD	10	PASI-O
	EPA 200.8	DMT	7	PASI-I
	EPA 245.1	EAE	1	PASI-I
	EPA 524.2	BES	48	PASI-I
	DW-11	DW-11 EPA 505 EPA 200.8 EPA 245.1 EPA 524.2 DUP EPA 505 EPA 200.8 EPA 200.8 EPA 245.1	DW-11  EPA 505  EPA 200.8  DMT  EPA 245.1  EAE  EPA 524.2  BES  DUP  EPA 505  JPD  EPA 505  JPD  EPA 200.8  DMT  EPA 200.8  DMT  EPA 200.8  EPA 245.1  EAE	Sample ID         Method         Analysts         Reported           DW-11         EPA 505         JPD         10           EPA 200.8         DMT         7           EPA 245.1         EAE         1           EPA 524.2         BES         48           DUP         EPA 505         JPD         10           EPA 200.8         DMT         7           EPA 245.1         EAE         1

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313421001	DW-11			_		
EPA 200.8	Arsenic	2.7	ug/L	1.0	04/19/22 04:24	N2
EPA 200.8	Barium	250	ug/L	2.0	04/19/22 06:53	N2
EPA 200.8	Cadmium	0.22	ug/L	0.20	04/19/22 04:24	N2
EPA 200.8	Lead	24.4	ug/L	1.0	04/19/22 04:24	N2
50313421002	DUP					
EPA 200.8	Arsenic	2.7	ug/L	1.0	04/19/22 04:28	N2
EPA 200.8	Barium	243	ug/L	2.0	04/19/22 06:57	N2
EPA 200.8	Lead	3.4	ug/L	1.0	04/19/22 04:28	N2



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

Sample: DW-11	Lab ID:	50313421001	Collected: 0	04/06/22	2 15:28	Received: 04	/08/22 12:50 I	Matrix: Drinkino	g Water
Parameters	Results	Units	Report L	_imit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	)5 Preparation	n Metho	d: EPA :	505			
	Pace Anal	ytical Services -	Ormond Bead	ch					
Chlordane (Technical)	NI	D ug/L		0.21	1	04/13/22 03:18	04/13/22 11:50	57-74-9	
PCB-1016 (Aroclor 1016)	NI	•		0.11	1		04/13/22 11:50		
PCB-1221 (Aroclor 1221)	NI	Ū		0.11	1	04/13/22 03:18	04/13/22 11:50	11104-28-2	
PCB-1232 (Aroclor 1232)	NI	_		0.11	1	04/13/22 03:18	04/13/22 11:50	11141-16-5	
PCB-1242 (Aroclor 1242)	NI	•		0.11	1	04/13/22 03:18	04/13/22 11:50	53469-21-9	
PCB-1248 (Aroclor 1248)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 11:50	12672-29-6	
PCB-1254 (Aroclor 1254)	NI	•		0.11	1	04/13/22 03:18	04/13/22 11:50	11097-69-1	
PCB-1260 (Aroclor 1260)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 11:50	11096-82-5	
PCB, Total	NI	_		0.11	1	04/13/22 03:18	04/13/22 11:50	1336-36-3	
oxaphene	NI	_		1.1	1		04/13/22 11:50		
200.8 MET ICPMS	Analytical	Method: EPA 20	00.8 Preparation	on Meth	nod: EP/	A 200.8			
	Pace Anal	ytical Services -	Indianapolis						
Arsenic	2.	<b>7</b> ug/L		1.0	1	04/15/22 02:00	04/19/22 04:24	7440-38-2	N2
Barium	25	-		2.0	2	04/15/22 02:00	04/19/22 06:53	7440-39-3	N2
Cadmium	0.2			0.20	1		04/19/22 04:24		N2
Chromium	NI	J		2.0	1		04/19/22 04:24		N2
₋ead	24.	J		1.0	1		04/19/22 04:24		N2
Selenium	NI	J		2.0	1		04/19/22 04:24		N2
Silver	NI	_		0.50	1		04/19/22 04:24		N2
245.1 Mercury	Analytical	Method: EPA 24	15.1 Preparation	on Meth	nod: EP/	A 245.1			
•		ytical Services -							
Mercury	NI	D ug/L		0.20	1	04/19/22 09:33	04/19/22 17:13	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2						
,2 II.2 III.0 V	•	ytical Services -							
Benzene	NI	O ug/L		0.50	1		04/12/22 19:47	71-43-2	N2
Bromobenzene	NI	J		0.50	1		04/12/22 19:47		N2
Bromodichloromethane	NI	J		1.0	1		04/12/22 19:47		N2
Bromoform	NI	•		1.0	1		04/12/22 19:47		N2
Bromomethane	NI	•		5.0	1		04/12/22 19:47		N2
Carbon tetrachloride	NI	•		0.50	1		04/12/22 19:47		N2
Chlorobenzene	NI	J		0.50	1		04/12/22 19:47		N2
Chloroethane	NI	•		0.50	1		04/12/22 19:47		N2
Chloroform	NI	•		1.0	1		04/12/22 19:47		N2
Chloromethane	NI	•		1.0	1		04/12/22 19:47		N2
	NI			1.0	1		04/12/22 19:47		N2
2-Chlorotoluene	NI	•		0.50	1		04/12/22 19:47		N2
		- ug/L			1		04/12/22 19:47		N2
I-Chlorotoluene		ا/میر		7 ()			UTI 12/22 1U.TI	127 70 1	144
1-Chlorotoluene Dibromochloromethane	NI	Ū		1.0 0.50				74-95-3	N2
I-Chlorotoluene Dibromochloromethane Dibromomethane	NI NI	O ug/L		0.50	1		04/12/22 19:47		N2 N2
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene	NI NI NI	O ug/L O ug/L		0.50 0.50	1 1		04/12/22 19:47 04/12/22 19:47	95-50-1	N2
1-Chlorotoluene Dibromochloromethane Dibromomethane	NI NI	0 ug/L 0 ug/L 0 ug/L		0.50	1		04/12/22 19:47	95-50-1 541-73-1	



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

Sample: DW-11	Lab ID: 503	13421001	Collected: 04/06/2	22 15:28	Received: 0	04/08/22 12:50 N	/latrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	hod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 19:47	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:47	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:47	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:47	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:47	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:47	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:47	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 19:47	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 19:47	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 19:47	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 19:47	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 19:47	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 19:47	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 19:47	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 19:47	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 19:47	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 19:47	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 19:47	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 19:47	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 19:47	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 19:47	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 19:47	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 19:47	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 19:47	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 19:47	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 19:47	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 19:47	95-47-6	N2
Surrogates		=						
4-Bromofluorobenzene (S)	94	%.	70-130	1		04/12/22 19:47	460-00-4	
Dibromofluoromethane (S)	97	%.	70-130	1		04/12/22 19:47	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/12/22 19:47	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

Sample: DUP	Lab ID:	50313421002	Collected:	04/06/2	22 08:00	Received: 04	1/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical I	Method: EPA 50	5 Preparation	n Meth	od: EPA	505			
	Pace Analy	tical Services -	Ormond Bea	ch					
Chlordane (Technical)	ND	ug/L		0.22	1	04/13/22 03:18	04/13/22 11:33	57-74-9	
PCB-1016 (Aroclor 1016)	ND	Ū		0.11	1		04/13/22 11:33		
PCB-1221 (Aroclor 1221)	ND	•		0.11	1	04/13/22 03:18	04/13/22 11:33	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	_		0.11	1	04/13/22 03:18	04/13/22 11:33	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L		0.11	1	04/13/22 03:18	04/13/22 11:33	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L		0.11	1	04/13/22 03:18	04/13/22 11:33	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	-		0.11	1	04/13/22 03:18	04/13/22 11:33	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	•		0.11	1	04/13/22 03:18	04/13/22 11:33	11096-82-5	
PCB, Total	ND	_		0.11	1	04/13/22 03:18	04/13/22 11:33	1336-36-3	
- oxaphene	ND	_		1.1	1	04/13/22 03:18	04/13/22 11:33	8001-35-2	
200.8 MET ICPMS	-	Method: EPA 20		ion Me	thod: EP	A 200.8			
	Pace Analy	tical Services -	Indianapolis						
Arsenic	2.7	ug/L		1.0	1	04/15/22 02:00	04/19/22 04:28	7440-38-2	N2
Barium	243	•		2.0	2	04/15/22 02:00	04/19/22 06:57	7440-39-3	N2
Cadmium	ND			0.20	1		04/19/22 04:28		N2
Chromium	ND	0		2.0	1		04/19/22 04:28		N2
.ead	3.4	•		1.0	1		04/19/22 04:28		N2
Selenium	ND	•		2.0	1		04/19/22 04:28		N2
Bilver	ND	_		0.50	1		04/19/22 04:28		N2
245.1 Mercury	Analytical N	Method: EPA 24	l5.1 Preparati	ion Me	thod: FP	A 245.1			
		tical Services -							
Mercury	ND	ug/L		0.20	1	04/19/22 09:33	04/19/22 17:16	7439-97-6	
524.2 MSV	Analytical N	Method: EPA 52	24.2						
,22	•	tical Services -							
Benzene	ND	ug/L		0.50	1		04/12/22 20:13	3 71-43-2	N2
Bromobenzene	ND	•		0.50	1		04/12/22 20:13		N2
Bromodichloromethane	ND	•		1.0	1		04/12/22 20:13		N2
Bromoform	ND	•		1.0	1		04/12/22 20:13		N2
Bromomethane	ND	0		5.0	1		04/12/22 20:13		N2
Carbon tetrachloride	ND	•		0.50	1		04/12/22 20:13		N2
Chlorobenzene	ND	0		0.50	1		04/12/22 20:13		N2
Chloroethane	ND	Ū		0.50	1		04/12/22 20:13		N2
Chloroform	ND	•		1.0	1		04/12/22 20:13		N2
Chloromethane	ND	_		1.0	1		04/12/22 20:13		N2
2-Chlorotoluene	ND			1.0	1		04/12/22 20:13		N2
I-Chlorotoluene	ND	Ū		0.50	1		04/12/22 20:13		N2
Dibromochloromethane	ND ND	Ū		1.0	1		04/12/22 20:13		N2
Dibromochioromethane	ND ND	Ū		0.50	1		04/12/22 20:13		N2
1,2-Dichlorobenzene	ND ND	Ū		0.50	1		04/12/22 20:13		N2 N2
		ŭ							
1,3-Dichlorobenzene	ND	ŭ		0.50	1		04/12/22 20:13		N2
1,4-Dichlorobenzene 1,1-Dichloroethane	ND	ŭ		0.50 0.50	1		04/12/22 20:13 04/12/22 20:13		N2
1 1 Luchloroothana	ND	ug/L		0.50	1		U//12/22 20:13	1 75-31-3	N2

#### **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

Sample: DUP	Lab ID: 503	13421002	Collected: 04/06/2	22 08:00	Received: 0	04/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	l Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 20:13	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:13	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:13	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 20:13	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:13	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:13	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 20:13	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 20:13	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 20:13	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 20:13	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 20:13	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 20:13	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 20:13	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 20:13	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 20:13	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 20:13	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 20:13	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 20:13	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 20:13	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 20:13	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 20:13	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 20:13	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 20:13	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 20:13	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 20:13	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 20:13	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 20:13	95-47-6	N2
Surrogates		-						
4-Bromofluorobenzene (S)	94	%.	70-130	1		04/12/22 20:13	460-00-4	
Dibromofluoromethane (S)	99	%.	70-130	1		04/12/22 20:13	1868-53-7	
Toluene-d8 (S)	105	%.	70-130	1		04/12/22 20:13	2037-26-5	



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

QC Batch: 671366 QC Batch Method: EPA 245.1 Analysis Method:

EPA 245.1

Analysis Description:

Laboratory:

245.1 Mercury
Pace Analytical Services - Indianapolis

Analyzed

Qualifiers

Associated Lab Samples: 50313421001, 50313421002

METHOD BLANK: 3091666

Matrix: Water

Associated Lab Samples:

Mercury

50313421001, 50313421002

Blank Reporting

Parameter Units Result Limit

ug/L ND 0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE: 3091667

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Mercury 5 5.6 111 85-115 ug/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3091668

MS MSD

50313426001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Conc. Result Result % Rec % Rec **RPD** RPD Qual Result Limits

3091669

Mercury ug/L ND 5 5 5.2 5.1 103 102 70-130 1 20

MATRIX SPIKE SAMPLE: 3091670

Date: 04/21/2022 11:07 AM

MS MS % Rec 50313435001 Spike Qualifiers Parameter Units Result Conc. Result % Rec Limits ND 5 5.6 111 70-130 Mercury ug/L

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313421001, 50313421002

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313421001, 50313421002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMP	LE: 3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	227		3090228							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3090	-		3090230							
	E	50313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313421001, 50313421002

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313421001, 50313421002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313421001, 50313421002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130 N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130 N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130 N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130 N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130 N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130 N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130 N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130 N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130 N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130 N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130 N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130 N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130 N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130 N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130 N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130 N2
Benzene	ug/L	20	19.7	99	70-130 N2
Bromobenzene	ug/L	20	20.7	103	70-130 N2
Bromodichloromethane	ug/L	20	20.3	101	70-130 N2
Bromoform	ug/L	20	23.2	116	70-130 N2
Bromomethane	ug/L	20	16.7	84	70-130 N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130 N2
Chlorobenzene	ug/L	20	22.1	110	70-130 N2
Chloroethane	ug/L	20	18.1	91	70-130 N2
Chloroform	ug/L	20	17.9	90	70-130 N2
Chloromethane	ug/L	20	17.4	87	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130 N2
Dibromochloromethane	ug/L	20	22.5	112	70-130 N2
Dibromomethane	ug/L	20	20.6	103	70-130 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313421

QC Batch: 815516

Analysis Method: EPA 505

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

> Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 50313421001, 50313421002

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313421001, 50313421002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 11:07 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SF	IKE DUPLIC	CATE: 4478	000		4478001							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SP		4478003										
	9	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

#### **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**

Date: 04/21/2022 11:07 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313421

Date: 04/21/2022 11:07 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313421001	DW-11	EPA 505	815516	EPA 505	815530
50313421002	DUP	EPA 505	815516	EPA 505	815530
50313421001	DW-11	EPA 200.8	671085	EPA 200.8	671359
50313421002	DUP	EPA 200.8	671085	EPA 200.8	671359
50313421001	DW-11	EPA 245.1	671366	EPA 245.1	671891
50313421002	DUP	EPA 245.1	671366	EPA 245.1	671891
50313421001	DW-11	EPA 524.2	670791		
50313421002	DUP	EPA 524.2	670791		

#### LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or CHAIN-OF-CUSTODY Analytical Request Document MTJL Log-in Number Here Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Billing Information: Company: Mundell and Associates, Inc. ALL BOLD OUTLINED AREAS are for LAB USE ONLY 110 S Downey Ave, Indianapolis, IN 46219 Address: 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 8 0 Report To: Luke Johnstone Email To: Ljohnstone@mundellassociates.com \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate. (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other DI water 4500 S Hoyt Ave Muncie, Indiana Analyses Lab Profile/Line: Time Zone Collected: Customer Project Name/Number: County/City: Lab Sample Receipt Checklist: M20032 Muncie Phase II / Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com ] Yes [ ] No (and 245.1 Bottles Intact DW PWS ID #: Purchase Order #: Collected By (print): Correct Bottles Luke Johnstone Quote #: DW Location Code: Sufficient Volume Samples Received on Ice Turnaround Date Required: Immediately Packed on Ice: Collected By (signature): Glass ( Total RCRA 8 Metals via EPA 200.8 VOA - Headspace Acceptable Y N NA [x] Yes [] No USDA Regulated Soils Sample Disposal: Rush: (Expedite Charges Apply) Field Filtered (if applicable): Samples in Holding Time 5 [ x ] Dispose as appropriate [ ] Same Day [ ] Next Day [x]No [ ] Yes Residual Chlorine Present Plastic (P) Cl Strips: ] Return [ ] 2 Day [ ] 3 Day ] Archive: [ ]4 Day [ ]5 Day Analysis: pH Strips: | Hold: 537 VOC's full list via Sulfide Present Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Container Type: Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) Via LAB USE ONLY: Comp / Collected (or Res # of via Composite End PFAS V Customer Sample ID Matrix \* Grab Composite Start) CI Ctns PCB Date Time Date Time X DW-11 X X 4/6/22 15:28 DW/GW Grab 7 6/19 DUP Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A Type of Ice Used: Wet Blue Dry None VOC full list, Total RCRA 8 Metals, PCB Packing Material Used: Lab Tracking #:

All sampled via drinking water methods

Date/Time:

Date/Time:

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Sample pH Acceptable Y N NA Y N NA Lead Acetate Strips: Lab Sample # / Comments: see scur LAB Sample Temperature Info: Temp Blank Received: Y N Therm ID#: Cooler 1 Temp Upon Receipt: oC Cooler 1 Therm Corr. Factor: oC Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA Cooler 1 Corrected Temp: FEDEX UPS Client Courier Pace Courier MTJL LAB USE ONLY Received by/Company: (Signature) 418/22 Table #: see scur Received by/Company: (Signature) Acctnum: Trip Blank Received: Y N NA Template: HCL MeOH TSP Other Prelogin: PM: Non Conformance(s): Page: PB: YES / NO Page 19 of 21

Y N NA

Y N NA

Y N NA

YNNA

Y N NA

Y N NA

Y N NA

Pace Analytical"

## SAMPLE CONDITION UPON RECEIPT FORM

1. Courier:  FED EX UPS CLIENT PAC 2. Custody Seal on Cooler/Box Present: Yes	No			5. Packing Material:	☐ Bubble Wrap	☑ Bubbl		
(If yes)Seals Intact: Yes No (leave blank 3. Thermometer: 123456 ABC ØEF		were pres	7.7	- 1	П			
4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/0 Temp should be above freezing to 8°C (Initial/Corrected)			The state of the s	5. Ice Type:	Blue None		: 🗆 Yes	□ No
All	discrepanc	ies will be	written out in the co	mments section below.				
	Yes	No				Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, DK, AR, LA, TN, AL, MS, NC, SC; GA, FL, or Puerto Rico)		/	CHECKED?: exception container with a septu	g acid/base pres. Have bee ons: VOA, coliform, LLHg, im cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Any non-conformance t	(2) NaOH (>10) NaOH/Z to pH recommendations will be	nAc (>9) e noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Ch	eck (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):	,	1	Residual Chlorine Ch	eck (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?	/		Headspace Wisconsin	Sulfide?				/
Containers Intact?:	$\sqrt{}$		Headspace in VOA Vi See Containter Count			Present	Absent	No VOA Vials Sen
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?				/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody S	eals?:				/
COMMENTS:								
				17				

COC	PAGE	1 0	of !

## Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance \*\*

coc I	أضيانا	KIL	1 - (1		1 -		i i	1	1.00	1	id-d	1	1 LL	i .	1	1	1 -	1	1	111	1	1		1.2	1	1 1		t things		
COC Line Item	WGFU	R	HG94	VOA VIAL HS (>6mm)	VG9U	реэд	VG9T	AGOU	AG1H	AG10	AGSU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	вьзв	BP3Z	ССЗН	Syringe Kit		Matrix	H2SO4 pH <2	ZNAc pH >9	NaOH pH>10
1			3	1.74		3		i ii	- 1										1								W	- 1		
2			1																1								17	1		
3		( = i		41	4=1	15.3																								
4														-	11	1														1
5																														
6																														
7								- 7																			-			
8																														
9	1	-												117																
10																														
11																-				7				11						
12																									-					

#### Container Codes

	Gla				
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	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	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

I	Plas	tic / Misc.	
Т	BP4U	125mL unpreserved plastic	Ī
1	BP4N	125mL HNO3 plastic	Ī
1	BP4S	125mL H2SO4 plastic	

Syringe	e Kit LL Cr+6 sampling kit	
AF	Air Filter	
С	Air Cassettes	
R	Terracore kit	~
SP5T	120mL Coliform Na Thiosulfate	
U	Summa Can	
ZPLC	Ziploc Bag	

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification: FL NELAC Re

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

New York Certification #: 11608

North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065 Oklahoma Laboratory #: 9204

Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Lab ID Sample ID		Matrix	Date Collected	Date Received
50313420001	DW-12	Drinking Water	04/06/22 15:32	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313420001	DW-12	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
50313420001	DW-12		Onno				
EPA 200.8 EPA 200.8	Barium Lead	279 1.8	ug/L ug/L	2.0 1.0	04/19/22 06:49 04/19/22 04:20		



Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

Sample: DW-12	Lab ID:	50313420001	Collected: 04	/06/22	15:32	Received: 04	I/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report Li	mit I	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	)5 Preparation I	Method:	EPA 5	505			
	Pace Anal	ytical Services -	Ormond Beach						
Chlordane (Technical)	NI	D ug/L	(	).22	1	04/13/22 03:18	04/13/22 12:07	57-74-9	
PCB-1016 (Aroclor 1016)	NI	•		0.11	1		04/13/22 12:07		
PCB-1221 (Aroclor 1221)	NI	Ū	(	0.11	1	04/13/22 03:18	04/13/22 12:07	11104-28-2	
PCB-1232 (Aroclor 1232)	NI	_	(	0.11	1	04/13/22 03:18	04/13/22 12:07	11141-16-5	
PCB-1242 (Aroclor 1242)	NI	•	(	0.11	1		04/13/22 12:07		
PCB-1248 (Aroclor 1248)	NI	ŭ	(	0.11	1	04/13/22 03:18	04/13/22 12:07	12672-29-6	
PCB-1254 (Aroclor 1254)	NI	•		0.11	1		04/13/22 12:07		
PCB-1260 (Aroclor 1260)	NI	•	(	0.11	1	04/13/22 03:18	04/13/22 12:07	11096-82-5	
PCB, Total	NI	_	(	0.11	1		04/13/22 12:07		
Toxaphene	NI	_		1.1	1		04/13/22 12:07		
200.8 MET ICPMS	Analytical	Method: EPA 20	00.8 Preparation	n Metho	d: EPA	A 200.8			
	Pace Anal	ytical Services -	Indianapolis						
Arsenic	NI	O ug/L		1.0	1	04/15/22 02:00	04/19/22 04:20	7440-38-2	N2
Barium	27	•		2.0	2	04/15/22 02:00	04/19/22 06:49	7440-39-3	N2
Cadmium	NI		(	).20	1	04/15/22 02:00	04/19/22 04:20	7440-43-9	N2
Chromium	NI	Ū		2.0	1	04/15/22 02:00	04/19/22 04:20	7440-47-3	N2
.ead	1.	•		1.0	1	04/15/22 02:00	04/19/22 04:20	7439-92-1	N2
Selenium	NI	•		2.0	1	04/15/22 02:00	04/19/22 04:20	7782-49-2	N2
Silver	NI	_	(	).50	1		04/19/22 04:20		N2
245.1 Mercury	Analytical	Method: EPA 24	15.1 Preparation	n Metho	d: EPA	A 245.1			
·		ytical Services -							
Mercury	NI	O ug/L	(	0.20	1	04/19/22 09:33	04/19/22 17:11	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2						
-	•	ytical Services -							
Benzene	NI	D ug/L	(	).50	1		04/12/22 19:21	71-43-2	N2
Bromobenzene	NI	O ug/L	(	).50	1		04/12/22 19:21	108-86-1	N2
Bromodichloromethane	NI	O ug/L		1.0	1		04/12/22 19:21	75-27-4	N2
Bromoform	NI	O ug/L		1.0	1		04/12/22 19:21	75-25-2	N2
Bromomethane	NI	O ug/L		5.0	1		04/12/22 19:21	74-83-9	N2
Carbon tetrachloride	NI	O ug/L	(	).50	1		04/12/22 19:21	56-23-5	N2
Chlorobenzene	NI	O ug/L	(	).50	1		04/12/22 19:21	108-90-7	N2
Chloroethane	NI	O ug/L	(	).50	1		04/12/22 19:21	75-00-3	N2
Chloroform	NI	O ug/L		1.0	1		04/12/22 19:21	67-66-3	N2
Chloromethane	NI	-		1.0	1		04/12/22 19:21	74-87-3	N2
2-Chlorotoluene	NI			1.0	1		04/12/22 19:21	95-49-8	N2
I-Chlorotoluene	NI	-	(	).50	1		04/12/22 19:21	106-43-4	N2
Dibromochloromethane	NI	•		1.0	1		04/12/22 19:21		N2
Dibromomethane	NI	•	(	).50	1		04/12/22 19:21		N2
1,2-Dichlorobenzene	NI	•		0.50	1		04/12/22 19:21		N2
,3-Dichlorobenzene	NI	•		).50	1		04/12/22 19:21		N2
1,4-Dichlorobenzene	NI	•		).50	1		04/12/22 19:21		N2

#### **REPORT OF LABORATORY ANALYSIS**

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# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

Sample: DW-12	Lab ID: 503	13420001	Collected: 04/06/2	22 15:32	Received: 0	4/08/22 12:50 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Met	hod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 19:21	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:21	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 19:21	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:21	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:21	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 19:21	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 19:21	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 19:21	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 19:21	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 19:21	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 19:21	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 19:21	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 19:21	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 19:21	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 19:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 19:21	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 19:21	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 19:21	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 19:21	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 19:21	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 19:21	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 19:21	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 19:21	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 19:21	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 19:21	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 19:21		N2
Surrogates		ŭ						
4-Bromofluorobenzene (S)	96	%.	70-130	1		04/12/22 19:21	460-00-4	
Dibromofluoromethane (S)	97	%.	70-130	1		04/12/22 19:21	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/12/22 19:21	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313420

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313420001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313420001

Reporting

Blank Result

Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Units ug/L

50313426001

Result

Units

ug/L

ND

Conc. 5

5.6

3091669

Result

5.2

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

Conc.

Conc.

5

ND

MSD MS Spike Spike

5

MS

MSD Result

MSD % Rec % Rec

103

MS

% Rec Limits

102

111

Max **RPD** RPD

Qual 20

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 11:07 AM

Parameter

3091670

Units

ug/L

50313435001

Spike

MS

5.1

MS

% Rec

70-130

Qualifiers

Parameter

Mercury

Mercury

Result

Conc. 5

Result 5.6

% Rec

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313420001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313420001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX SP	PIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313420001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313420001

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2	
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2	
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2	
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2	
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2	
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2	
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2	
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2	
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2	
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2	
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2	
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2	
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2	
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2	
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2	
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2	
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2	
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2	
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2	
Toluene	ug/L	ND	1.0	04/12/22 16:47	N2	

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Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313420001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	N2

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# **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
rans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
rans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 50313420001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313420001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ua/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 11:07 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	_
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	CATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 4478	002		4478003							
	9	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016) PCB-1260 (Aroclor 1260)	ug/L ug/L	ND ND	0.79 0.79	0.78 0.78	0.83 0.76	0.81	104	104 104	70-130 70-130	 2 7	20	

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#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

#### **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**

Date: 04/21/2022 11:07 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313420

Date: 04/21/2022 11:07 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313420001	DW-12	EPA 505	815516	EPA 505	815530
50313420001	DW-12	EPA 200.8	671085	EPA 200.8	671359
50313420001	DW-12	EPA 245.1	671366	EPA 245.1	671891
50313420001	DW-12	EPA 524.2	670791		

Pace Analytical		condition	-CUSTOD chain of custody s found at: https: Custody is a LEG	/constitutes a //info.pacelat	cknowledgme	nt and accepta pas-standard-to	nce of the F erms.pdf		s and	-		LAB	USE OF	NLY- Aff	ix Work		10,23,00	abel H		List Pace Workorder Number or ere
Company: Mundell and Associa	ates, Inc.		Billing Infor	mation:						33			ALL	BOLD	OUT	LINE	DAF	REAS	are	for LAB USE ONLY
Address: 110 S Downey Ave, In	dianapolis, IN 4621	9	11051	Downey Av	ve, Indiana	polis, IN 46	219				_	-		r Preser		-	-			Project Manager:
Report To: Luke Johnstone			Email To: L	johnstone	@mundella	associates.c	com			150	3 eservation	8 ve Type	0	itric acid	(2) sulfi	uric acid	(3) hve	trochlori	ic acid (	(4) sodium hydroxide, (5) zinc acetate,
Copy To:			Site Collect					_		(6) m	ethanol,	, (7) so	dium bi		B) sodiur	n thios	ılfate, (9	) hexane	e, (A) ase	scorbic acid, (B) ammonium sulfate,
			4512	S Hoyt A	ve	Muncie,	Indiana			(c) an	milomia	milyu	Oxide, (	Analy		Jer rea,	10/00		-	Profile/Line:
Customer Project Name/Number M20032 Muncie Phase II	er:			County/Cit Muncie	• 1	ne Zone Col		X]ET		Hg)				, iiiii					Lab	Sample Receipt Checklist: tody Seals Present/Intact Y N NA
Phone: 317-630-9060	Site/Facility ID	#:				ce Monitor				for H								-1		tody Signatures Present Y N NA
Email: Ljohnstone@mundellass	ociates.com				[ ] Yes	[ ] No				1 to					6					lector Signature Present Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:	er#:			DW PWS	ID #:				1245.1		-			Ü	10	9	7	Corr	tles Intact Y N NA rect Bottles Y N NA ficient Volume Y N NA
Collected;By (signature):	Turnaround D	ate Requir	ed:		Immediat	ely Packed	on Ice:		Glass (G)	EPA 200.8 (and						В			Samp	ficient Volume Y N NA ples Received on Ice Y N NA - Headspace Acceptable Y N NA
Julia Handis	Rush: (Expedi	t- Ch	AnaliA		[x] Yes	[]No	t-shl-V		Slas	8		100		11-11			7/3			A Regulated Soils Y N NA
Sample Disposal: / [x] Dispose as appropriate						red (if appl				A 2	2				21	10	38	70		ples in Holding Time Y N NA
[ ] Return	[ ]Same [				[ ] Yes	[x]No			6	a E	524.2	1			100		-	10		idual Chlorine Present Y N NA Strips:
[ ] Archive:	[ ] 2 Day [ ] 4 Day				Anabesis				ic C	2	A S	V-1		0712		9				ple pH Acceptable Y N NA
[ ] Hold:	[ ]4 Day	[ ]5 Day			Analysis:			_	last	ET ET	EPA	Casil	7.1	111 (	100			10		Strips:
* Matrix Codes (Insert in Matrix Product (P), Soil/Solid (SL), Oil							/),		Type: F	RCRA 8 Metals via	I list vi	PA 505	EPA 537.					0		fide Present Y N NA d Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab	Collect Composi Date		Compo	osite End	Res	# of Ctns	Container Type: Plastic (P) or	Total RCF	VOC's full list via	PCB via EPA 505	PFAS via		Y				0.000	USE ONLY: Sample # / Comments:
DW-12	DW/GW	Grab	4/6/22	- 1 3 4 1		1		7	G/P	X	х	×		200	100					See sour
	4									18										
															-					
															100					
																	(0),			
Customer Remarks / Special Co VOC full list, Total RCRA 8 M		Hazards:	Type of Ice Packing Ma		Wet d:	Blue	Dry	None				RT HC	_	RESENT	(<72 ho	urs) :	Y N	N/A		LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm ID#:
All sampled via drinking wat	er methods		Radchem sa	ample(s) se	creened (<	500 cpm):	Υ Λ	l NA			10 Zim/102	ples re	eceived UP:		ent Co	ourier	Pace (	Courier		Cooler 1 Temp Upon Receipt:oC Cooler 1 Therm Corr. Factor:oC Cooler 1 Corrected Temp:oC
Relinquished by/Company: (Sig	nature)	Date	/Time:	115	Received t	oy/Compan	y: (Signa	ture)	PC	4		Date/	Time:	2 16		MT.		JSE ON	LY	Comments:
Relinquished by/Company: (Sig	nature)	1.0	e/Time:	1250	11	oy/Compan		ture)				Date/	Time:	2 121	6	Acctnu	te:	176		Trip Blank Received: Y N NA HCL MeOH TSP Other
Relinquished by/Company: (Sig	nature)	_	e/Time:	1	0,00	Oy/Compan		ture)				Date/	Time:	IN		Prelogi PM: PB:	n:			Non Conformance(s): Page: YES / NO of:

# Pace Analytical"

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier:  FED EX UPS CLIENT PAGE. Custody Seal on Cooler/Box Present:  Yes	No			5. Packing Material:	☐ Bubble Wrap ☐ None	☑ Bubbl		
If yes)Seals Intact: Yes No (leave blank 3. Thermometer: 123456 ABC © EF 4. Cooler Temperature: 0.9 /0.7 0.2/0.0 0.3/0. Temp should be above freezing to 6°C (Initial/Corrected)		vere pres	ent)	6. Ice Type: Wet 7. If temp. is over 6°C or			: 🗌 Yes	□ No
All	discrepanci	ies will be	written out in the	comments section below.				
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, DK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	CHECKED?: exception container with a se	ling acid/base pres. Have be tions: VOA, collform, LLHg, ptum cap or preserved with H	O&G, and any	Yes	No	N/A
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: (HNO3 (<2) H2SO Any non-conformand count form	4 (<2) NaOH (>10) NaOH/Z e to pH recommendations will b	nAc (>9) e noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		/	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?			Headspace Wiscon	sin Sulfide?				/
Containers Intact?:	1		Headspace in VOA See Containter Cou	Vials (>6mm): int form for details		Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	V		Trip Blank Present	,			/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody	Seals?:				/
COMMENTS:								

COC PAGE	1_ of 1
----------	---------

# Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance \*\*

- C- VII		MIL		2.5	D-4			0	0.				200		2		2						O . 10		2.	24		are ou			
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	фера	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	сезн	Syringe Kit		Matrix	H2S pH	O3/ N O4 2 <2 p	NaOH/ ZNAc pH >9	NaOH pH>10
1			3	73	UE.	3													1									TV			
2			1																												
3																															
4			1 4	ii ii													Ī.														
5																															
6																													1		
7																												1	1		
8																													1		
9																											1	1			
10																											-				
11																											-		1		
12																		-				11									

# Container Codes

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

F	Plas	tic / Misc.
Τ	BP4U	125mL unpreserved plastic
1	BP4N	125mL HNO3 plastic
1	BP4S	125mL H2SO4 plastic

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures





#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050 Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313427001	DW-13	Drinking Water	04/06/22 16:07	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Lah ID	Samula ID	Motherd	Amaluata	Analytes	Laboratory
Lab ID	Sample ID	Method	Analysts	Reported	Laboratory
50313427001	DW-13	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313427001	DW-13					
EPA 200.8	Arsenic	4.2	ug/L	1.0	04/19/22 05:34	N2
EPA 200.8	Barium	114	ug/L	1.0	04/19/22 05:34	N2
EPA 200.8	Lead	2.2	ug/L	1.0	04/19/22 05:34	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

Sample: DW-13	Lab ID:	50313427001	Collected: 04/06/	22 16:07	Received: 04	/08/22 12:50	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	5 Preparation Meth	od: EPA	505			
	Pace Anal	ytical Services -	Ormond Beach					
Chlordane (Technical)	NE	) ug/L	0.22	1	04/13/22 03:18	04/13/22 12:24	4 57-74-9	
PCB-1016 (Aroclor 1016)	NE	J	0.11	1	04/13/22 03:18			
PCB-1221 (Aroclor 1221)	NE	-	0.11	1	04/13/22 03:18	04/13/22 12:24	11104-28-2	
PCB-1232 (Aroclor 1232)	NE	•	0.11	1	04/13/22 03:18	04/13/22 12:24	1 11141-16-5	
PCB-1242 (Aroclor 1242)	NE	•	0.11	1	04/13/22 03:18	04/13/22 12:24	1 53469-21-9	
PCB-1248 (Aroclor 1248)	NE	Ū	0.11	1	04/13/22 03:18	04/13/22 12:24	1 12672-29-6	
PCB-1254 (Aroclor 1254)	NE	ū	0.11	1	04/13/22 03:18	04/13/22 12:24	11097-69-1	
PCB-1260 (Aroclor 1260)	NE	•	0.11	1	04/13/22 03:18	04/13/22 12:24	11096-82-5	
PCB, Total	NE	J	0.11	1	04/13/22 03:18			
Toxaphene	NE	J	1.1	1	04/13/22 03:18			
200.8 MET ICPMS	Analytical	Method: FPA 20	00.8 Preparation Me	thod: FP	A 200 8			
2000 ME1 101 MO	•	ytical Services -	•					
Arsenic	4.2	2 ug/L	1.0	1	04/15/22 02:00	04/19/22 05:3	1 7440-38-2	N2
Barium	114	•	1.0	1	04/15/22 02:00	04/19/22 05:34	1 7440-39-3	N2
Cadmium	NE	-	0.20	1	04/15/22 02:00	04/19/22 05:34	1 7440-43-9	N2
Chromium	NE	-	2.0	1	04/15/22 02:00	04/19/22 05:34	1 7440-47-3	N2
Lead	2.2	-	1.0	1	04/15/22 02:00	04/19/22 05:34	1 7439-92-1	N2
Selenium	NE	_	2.0	1	04/15/22 02:00	04/19/22 05:34	1 7782-49-2	N2
Silver	NE	-	0.50	1	04/15/22 02:00	04/19/22 05:34	1 7440-22-4	N2
245.1 Mercury	Analytical	Method: EPA 24	45.1 Preparation Me	thod: EP	A 245.1			
•	-	ytical Services -						
Mercury	NE	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:10	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2					
	•	ytical Services -						
Benzene	NE	) ug/L	0.50	1		04/12/22 23:39	71-43-2	N2
Bromobenzene	NE	ug/L	0.50	1		04/12/22 23:39	9 108-86-1	N2
Bromodichloromethane	NE	ug/L	1.0	1		04/12/22 23:39	9 75-27-4	N2
Bromoform	NE	•	1.0	1		04/12/22 23:39	9 75-25-2	N2
Bromomethane	NE	•	5.0	1		04/12/22 23:39	9 74-83-9	N2
Carbon tetrachloride	NE	•	0.50	1		04/12/22 23:39	9 56-23-5	N2
Chlorobenzene	NE	•	0.50	1		04/12/22 23:39	9 108-90-7	N2
Chloroethane	NE	•	0.50	1		04/12/22 23:39		N2
Chloroform	NE	-	1.0	1		04/12/22 23:39		N2
Chloromethane	NE		1.0	1		04/12/22 23:39		N2
2-Chlorotoluene	NE	ū	1.0	1		04/12/22 23:39		N2
4-Chlorotoluene	NE	ū	0.50	1		04/12/22 23:39		N2
	NE	ū	1.0	1		04/12/22 23:39		N2
			1.0					N2
Dibromochloromethane		) ua/l	0.50	1		U4/12/// /313	1 /4-95-3	
Dibromochloromethane Dibromomethane	NE	ū	0.50 0.50	1 1		04/12/22 23:39		
Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene	NE NE	ug/L	0.50	1		04/12/22 23:39	9 95-50-1	N2
Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	NE	ug/L ug/L					9 95-50-1 9 541-73-1	



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

Sample: DW-13	Lab ID: 503	13427001	Collected: 04/06/2	2 16:07	Received: 0	4/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 23:39	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 23:39	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 23:39	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 23:39	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 23:39	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 23:39	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 23:39	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 23:39	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 23:39	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 23:39	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 23:39	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 23:39	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 23:39	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 23:39	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 23:39		N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 23:39	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 23:39	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 23:39	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 23:39	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 23:39	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 23:39	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 23:39	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 23:39	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 23:39	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 23:39	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 23:39	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 23:39	95-47-6	N2
Surrogates		ŭ						
4-Bromofluorobenzene (S)	98	%.	70-130	1		04/12/22 23:39	460-00-4	
Dibromofluoromethane (S)	98	%.	70-130	1		04/12/22 23:39	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/12/22 23:39	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313427

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313427001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313427001

Parameter

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

111

LABORATORY CONTROL SAMPLE:

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

MS

% Rec

103

Qualifiers

Parameter Mercury

Units ug/L

50313426001

Result

ug/L

ND

5

5.6

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

Conc.

5

ND

MSD MS Spike Spike

5

MS

Result

5.2

3091669

MSD Result

MSD % Rec

102

111

% Rec Limits

70-130

Max **RPD** 

RPD Qual 20

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 11:03 AM

Parameter

Parameter

3091670

Units

ug/L

Units

Conc.

Spike

MS

5.1

MS

% Rec

Mercury

Mercury

50313435001 Result

Conc. 5

Result 5.6

% Rec

Limits

Qualifiers 70-130

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.



Analysis Method:

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

QC Batch: 671085
QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

EPA 200.8

Associated Lab Samples: 50313427001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	227		3090228							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPL	ICATE: 3090	229		3090230							
			MS	MSD								
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	ND	40	40	39.9	39.5	99	98	70-130		20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3090	-		3090230							
	E	50313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313427001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313427001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130 N2	•
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130 N2	
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130 N2	
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130 N2	
1,1-Dichloroethane	ug/L	20	19.1	96	70-130 N2	
1,1-Dichloroethene	ug/L	20	20.8	104	70-130 N2	
1,1-Dichloropropene	ug/L	20	21.9	109	70-130 N2	
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130 N2	
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130 N2	
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130 N2	
1,2-Dichloroethane	ug/L	20	18.8	94	70-130 N2	
1,2-Dichloropropane	ug/L	20	19.7	99	70-130 N2	
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130 N2	
1,3-Dichloropropane	ug/L	20	22.0	110	70-130 N2	
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130 N2	
2,2-Dichloropropane	ug/L	20	20.2	101	70-130 N2	
2-Chlorotoluene	ug/L	20	22.4	112	70-130 N2	
4-Chlorotoluene	ug/L	20	22.5	113	70-130 N2	
Benzene	ug/L	20	19.7	99	70-130 N2	
Bromobenzene	ug/L	20	20.7	103	70-130 N2	
Bromodichloromethane	ug/L	20	20.3	101	70-130 N2	
Bromoform	ug/L	20	23.2	116	70-130 N2	
Bromomethane	ug/L	20	16.7	84	70-130 N2	
Carbon tetrachloride	ug/L	20	21.5	108	70-130 N2	
Chlorobenzene	ug/L	20	22.1	110	70-130 N2	
Chloroethane	ug/L	20	18.1	91	70-130 N2	
Chloroform	ug/L	20	17.9	90	70-130 N2	
Chloromethane	ug/L	20	17.4	87	70-130 N2	
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130 N2	
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130 N2	
Dibromochloromethane	ug/L	20	22.5	112	70-130 N2	
Dibromomethane	ug/L	20	20.6	103	70-130 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 50313427001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313427001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ua/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 11:03 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	_
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 4478	002		4478003							
	9.	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

#### **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**

Date: 04/21/2022 11:03 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313427

Date: 04/21/2022 11:03 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313427001	DW-13	EPA 505	815516	EPA 505	815530
50313427001	DW-13	EPA 200.8	671085	EPA 200.8	671359
50313427001	DW-13	EPA 245.1	671366	EPA 245.1	671891
50313427001	DW-13	EPA 524.2	670791		

1 2	wat day!"
/ Pace A	nalytical

Company: Mundell and Associates, Inc.

All sampled via drinking water methods

#### **CHAIN-OF-CUSTODY Analytical Request Document**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Billing Information:

Address: 110 S Downey Ave, Indianapolis, IN 46219 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 8 0 Report To: Luke Johnstone Email To: Liohnstone@mundellassociates.com \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Copy To: Site Collection Info/Address: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water\_ 3109 S Hovt Ave Muncie, Indiana Lab Profile/Line: Analyses Time Zone Collected: Customer Project Name/Number: County/City: Lab Sample Receipt Checklist: M20032 Muncie Phase II Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com [ ] Yes [ ] No Total RCRA 8 Metals via EPA 200.8 (and 245.1 Bottles Intact Y N NA Collected By (print): Purchase Order #: DW PWS ID #: Correct Bottles Y N NA Luke Johnstone Quote #: DW Location Code: Sufficient Volume YNNA Glass (G) Samples Received on Ice Y N NA Collected By (signature): Turnaround Date Required: Immediately Packed on Ice: VOA - Headspace Acceptable Y N NA July 1/m to [x] Yes []No USDA Regulated Soils Y N NA Sample Disposal: Rush: (Expedite Charges Apply) Field Filtered (if applicable): Samples in Holding Time Y N NA 50 [x ] Dispose as appropriate [ ] Same Day [ ] Next Day ] Yes [x]No Residual Chlorine Present Y N NA Container Type: Plastic (P) 1 Return Cl Strips: [ ]2 Day [ ]3 Day ] Archive: Sample pH Acceptable Y N NA EPA [ ]4 Day [ ]5 Day Analysis: pH Strips: 1 Hold: VOC's full list via Sulfide Present Y N NA Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), via EPA Lead Acetate Strips: Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) PCB via EPA LAB USE ONLY: Collected (or # of Comp / Res Composite End Lab Sample # / Comments: PFAS Matrix \* Customer Sample ID CI Ctns Grab Composite Start) Date Time Date Time X X X DW-13 DW/GW 6:07 Customer Remarks / Special Conditions / Possible Hazards: LAB Sample Temperature Info: SHORT HOLDS PRESENT (<72 hours): Y N N/A Type of Ice Used: Wet Blue Dry None Temp Blank Received: Y N NA VOC full list, Total RCRA 8 Metals, PCB Lab Tracking #: Packing Material Used: Therm ID#: Cooler 1 Temp Upon Receipt: oC

Samples received via:

Date/Time:

PM:

PB:

FEDEX UPS Client Courier Pace Courier Received by/Company: (Signature) Date/Time: Relinquished by/Company; (Signature) Date/Time: MTJL LAB USE ONLY 4-45 -Table #: Received by/Company: (Signature) Date/Time: Acctnum: Template: relogin:

Radchem sample(s) screened (<500 cpm): Y N NA

Non Conformance(s): YES / NO

comments:

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Page: Page 17 of 19

Cooler 1 Therm Corr. Factor:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Cooler 1 Corrected Temp:

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC  2. Custody Seal on Cooler/Box Present: ☐ Yes	/	SPS [	OTHER5. Packing Mate	Bubble Wrap	☑ Bubble Bags ☐ Other				
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABC DEF  4. Cooler Temperature: 0.9/0.7 0.7/0.0 0.3/0.1  Temp should be above freezing to 6°C (Initial/Corrected)	if no seals v	vere pres	6. Ice Type:	Wet ☐ Blue ☐ None 6°C or under 0°C, was the PN			□ No		
All	discrepanci	es will be	written out in the comments section	below.					
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. <u>CHECKED</u> ?: exceptions: VOA, colifore container with a septum cap or preserve	n, LLHg, O&G, and any	Yes	No	N/A		
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) Any non-conformance to pH recommendat count form	NaOH/ZnAc (>9)	1		1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 P	est/PCB 608)	Present	Absent	N/A		
Rush TAT Requested (4 days or less):		<b>V</b>	Residual Chlorine Check (Total/Amena	ble/Free Cyanide)			1		
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?				/		
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details		Present	Absept	No VOA Vials Sen		
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	J		Trip Blank Present?			/			
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:				/		
COMMENTS:							_		

COC PAGE	of		
----------	----	--	--

# **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that a	re out	of conf	ormance
--------	--------	---------	---------

		KIL																											contorm	
COC Line Item	WGFU	R	PG9H	VOA VIAL HS (>6mm)	VG9U	Деэа	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	ВРЗО	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	CG3H	Syringe		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3			3				1					-	100			1							-	WT	1		
2																														
3			111																											
4														+ ;															- 1	
5														. 1		11														
6																														
7																						1								
8																							-1							
9							111																							
10																														
11								-		- 11																				
12			11		(1)																.11									

# Container Codes

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

# Plastic / Misc.

	125mL unpreserved plastic	
	125mL HNO3 plastic	
BP4S	125mL H2SO4 plastic	

Syringe Kit	LL Cr+6 sampling kit

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

WT		Water	
SL	7	Solid	
NAL	OL	Non-aqueous liquid	Oil
WP	100	Wipe	





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313419001	DW-14	Drinking Water	04/07/22 09:45	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313419001	DW-14	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313419001	DW-14					
EPA 200.8	Arsenic	2.8	ug/L	1.0	04/19/22 04:16	N2
EPA 200.8	Barium	303	ug/L	2.0	04/19/22 06:45	N2
EPA 200.8	Lead	25.0	ug/L	1.0	04/19/22 04:16	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

Sample: DW-14	Lab ID: 503	13419001	Collected: 04/07/2	22 09:45	Received: 04	/08/22 12:50 I	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
05 GCS PCB-TOX-TCH	Analytical Met	nod: EPA 50	05 Preparation Metho	od: EPA	505			
	Pace Analytica	l Services -	Ormond Beach					
Chlordane (Technical)	ND	ug/L	0.22	1	04/13/22 03:18	04/13/22 12:42	57-74-9	
PCB-1016 (Aroclor 1016)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.11	1		04/13/22 12:42		
PCB-1260 (Aroclor 1260)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:42	11096-82-5	
PCB, Total	ND	ug/L	0.11	1		04/13/22 12:42		
oxaphene	ND	ug/L	1.1	1		04/13/22 12:42		
200.8 MET ICPMS	Analytical Met	nod: EPA 20	00.8 Preparation Met	thod: EP	A 200.8			
	Pace Analytica							
Arsenic	2.8	ug/L	1.0	1	04/15/22 02:00	04/19/22 04:16	7440-38-2	N2
Barium	303	ug/L	2.0	2	04/15/22 02:00	04/19/22 06:45	7440-39-3	N2
Cadmium	ND	ug/L	0.20	1		04/19/22 04:16		N2
Chromium	ND	ug/L	2.0	1		04/19/22 04:16		N2
ead	25.0	ug/L	1.0	1		04/19/22 04:16	-	N2
Selenium	ND	ug/L	2.0	1		04/19/22 04:16		N2
Silver	ND	ug/L	0.50	1		04/19/22 04:16		N2
245.1 Mercury	Analytical Met	nod: EPA 24	15.1 Preparation Met	thod: EP	A 245.1			
•	Pace Analytica							
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 17:03	7439-97-6	
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	l Services -	Indianapolis					
Benzene	ND	ug/L	0.50	1		04/12/22 18:55	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	1		04/12/22 18:55	108-86-1	N2
Bromodichloromethane	ND	ug/L	1.0	1		04/12/22 18:55		N2
Bromoform	ND	ug/L	1.0	1		04/12/22 18:55	75-25-2	N2
Bromomethane	ND	ug/L	5.0	1		04/12/22 18:55	74-83-9	N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/12/22 18:55		N2
Chlorobenzene	ND	ug/L	0.50	1		04/12/22 18:55	108-90-7	N2
Chloroethane	ND	ug/L	0.50	1		04/12/22 18:55		N2
Chloroform	ND	ug/L	1.0	1		04/12/22 18:55		N2
Chloromethane	ND	ug/L	1.0	1		04/12/22 18:55		N2
-Chlorotoluene	ND	ug/L	1.0	1		04/12/22 18:55		N2
-Chlorotoluene	ND ND	ug/L ug/L	0.50	1		04/12/22 18:55		N2
Dibromochloromethane	ND ND	•				04/12/22 18:55		
		ug/L	1.0	1				N2
Dibromomethane	ND	ug/L	0.50	1		04/12/22 18:55		N2
,2-Dichlorobenzene	ND	ug/L	0.50	1		04/12/22 18:55		N2
,3-Dichlorobenzene	ND	ug/L	0.50	1		04/12/22 18:55		N2
,4-Dichlorobenzene	ND	ug/L	0.50	1		04/12/22 18:55		N2
,1-Dichloroethane	ND	ug/L	0.50	1		04/12/22 18:55	<b>75-34-3</b>	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

Sample: DW-14	Lab ID: 503	13419001	Collected: 04/07/2	22 09:45	Received: 0	04/08/22 12:50 N	Matrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 18:55	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:55	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:55	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:55	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:55	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:55	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 18:55	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 18:55	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 18:55	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 18:55	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 18:55	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 18:55	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 18:55	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 18:55	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 18:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 18:55	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 18:55	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 18:55	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 18:55		N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 18:55		N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 18:55	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 18:55		N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 18:55	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 18:55		N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 18:55		N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 18:55		N2
Surrogates	-	· 3· -						
4-Bromofluorobenzene (S)	97	%.	70-130	1		04/12/22 18:55	460-00-4	
Dibromofluoromethane (S)	98	%.	70-130	1		04/12/22 18:55	1868-53-7	
Toluene-d8 (S)	107	%.	70-130	1		04/12/22 18:55		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313419

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313419001

METHOD BLANK:

Matrix: Water

Associated Lab Samples: 50313419001

Units

Reporting Limit

Analyzed

Qualifiers

Mercury

Mercury

Mercury

ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter

Units ug/L

Result

111

MS

% Rec

103

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

MSD

50313426001

ND

MS Spike Spike Conc. Conc.

5

5

MS Result

5.2

3091669

5.6

MSD Result

5.1

MSD % Rec

102

111

% Rec Limits

70-130

Max **RPD** RPD

20

Qual

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 11:08 AM

Parameter

3091670

Units

ug/L

Parameter Units

50313435001 Result

Spike Conc. 5

MS Result

5.6

MS % Rec % Rec

Qualifiers

Mercury

ug/L

ND

5

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313419001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313419001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	227		3090228							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SF	PIKE DUPLI	ICATE: 3090	229		3090230							
			MS	MSD								
		50313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ua/L	 ND	40	40	39.9	39.5	99	98	70-130		20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313419001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313419001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313419001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

LABORATORY CONTROL SAMPL	E: 3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	<b>N</b> 2
m&p-Xylene	ug/L	40	45.2	113	70-130 I	<b>N</b> 2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130 I	<b>N</b> 2
Methylene Chloride	ug/L	20	17.6	88	70-130 I	<b>N</b> 2
o-Xylene	ug/L	20	22.0	110	70-130 I	<b>N</b> 2
Styrene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Tetrachloroethene	ug/L	20	22.5	112	70-130 I	<b>N</b> 2
Toluene	ug/L	20	21.0	105	70-130 I	<b>N</b> 2
trans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130 I	<b>N</b> 2
trans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130 I	<b>N</b> 2
Trichloroethene	ug/L	20	20.2	101	70-130 I	<b>N</b> 2
Vinyl chloride	ug/L	20	16.3	81	70-130 I	<b>N</b> 2
Xylene (Total)	ug/L	60	67.2	112	70-130 I	<b>N</b> 2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313419

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Method:

Analysis Description:

EPA 505

Laboratory:

505 GCS PCB-TOX-TCH

Pace Analytical Services - Ormond Beach

Associated Lab Samples: 50313419001

METHOD BLANK: 4477979

Matrix: Water

Associated Lab Samples: 50313419001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 11:08 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101 110	70-130	
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SP	IKE DUPLIC	CATE: 4478	002		4478003							
	g	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016) PCB-1260 (Aroclor 1260)	ug/L ug/L	ND ND	0.79 0.79	0.78 0.78	0.83 0.76	0.81 0.81	104 96	104 104	70-130 70-130	2 7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

#### **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**

Date: 04/21/2022 11:08 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313419

Date: 04/21/2022 11:08 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313419001	DW-14	EPA 505	815516	EPA 505	815530
50313419001	DW-14	EPA 200.8	671085	EPA 200.8	671359
50313419001	DW-14	EPA 245.1	671366	EPA 245.1	671891
50313419001	DW-14	EPA 524.2	670791		

Email: Ljohnstone@mundellassociales.co Collected By (print):	Chain-c	ons found at: https:/ f-Custody is a LEG	//info.pacelab		s-standard-ter	rms.pdf	ace Term	ns and						N	MTJL Log-in Number Here  FLINED AREAS are for LAB USE ONLY			
Report To: Luke Johnstone  Copy To:  Customer Project Name/Number: M20032 Muncie Phase II  Phone: 317-630-9060 Site/Email: Ljohnstone@mundellassociates.co  Collected By (print): Purciuse Johnstone Quoi  Collected By (signature): Turn  Sample Disposal: Rush [x] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box belor Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID N		Billing Infor							9.00			ALL	BOLD	DUTLIN	ED AF	REAS a	are for LAB USE ONLY	
Copy To:  Customer Project Name/Number:     M20032 Muncie Phase II  Phone: 317-630-9060	is, IN 46219	110 5 0	Downey Av	ve, Indianap	olis, IN 462	19					Co	ntaine	Preserva	tive Type			Lab Project Manager:	
Customer Project Name/Number:     M20032 Muncie Phase II  Phone: 317-630-9060 Site/ Email: Ljohnstone@mundellassociates.co Collected By (print): Purc Luke Johnstone Quot Collected By (signature): Turn  Sample Disposal: Rush [x] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box below Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID		Email To: Lj	johnstone	@mundella:	ssociates.co	om			** Pre					the same to be			acid, (4) sodium hydroxide, (5) zinc acetate,	
M20032 Muncie Phase II  Phone: 317-630-9060 Site/ Email: Ljohnstone@mundellassociates.co Collected By (print): Purc Luke Johnstone Quot  Collected By (signature): Turn  Sample Disposal: Rush [x] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box below Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID		Site Collecti 4612	ion Info/A S Hoyt A		Muncie,	Indiana			12 0000				) TSP, (U)	Unpreserve		erDI wa		
Email: Ljohnstone@mundellassociales.co Collected By (print):		100 mg 10	ounty/Cit		Zone Colle		XIET		Hg)				Analyse	s			Lab Profile/Line: Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA	
Collected By (print): Luke Johnstone Quoi  Collected By (signature):  Turn  Sample Disposal:  [x] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box below Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID	/Facility ID #:			Complianc					H 10					40	0.1	10 P	Custody Signatures Present Y N NA	
Luke Johnstone Quoi Collected By (signature): Turn  Sample Disposal: Rush [x ] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box below Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID					[ ] No			1	245.1 for					(-)			Collector Signature Present Y N NA Bottles Intact Y N NA	
Sample Disposal:  [x ] Dispose as appropriate [] Return [] Archive: [] Hold:  * Matrix Codes (Insert in Matrix box below Product (P), Soil/Solid (SL), Oil (OL), Wip  Customer Sample ID  Rush  Rush [ ]  Rush	chase Order # : ote #:			DW PWS II					nd 245							N 1	Correct Bottles Y N NA Sufficient Volume Y N NA	
[ x ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold: [ ] Hold: [ ] Froduct (P), Soil/Solid (SL), Oil (OL), Wip Customer Sample ID [ ] N	naround Date Req	uired:		Immediate [x] Yes	ly Packed o	on Ice:		Glass (G)	0.8 (ar							10	Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA	
Matrix Codes (Insert in Matrix box belor Product (P), Soil/Solid (SL), Oil (OL), Wip Customer Sample ID	h: (Expedite Char ] Same Day [ ] 2 Day [ ] 3 Day ] 4 Day [ ] 5 Day	Next Day		Field Filter [ ] Yes Analysis:		cable):		Plastic (P) or Gi	Total RCRA 8 Metals via EPA 200.8 (and	EPA 524.2		.1					USDA Regulated Soils Y N NA Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA pH Strips:	
Customer Sample ID N						),		/pe: Pla	8 Met	ist via	A 505	PA 537			1		Sulfide Present Y N NA Lead Acetate Strips:	
DW-14 0	Matrix * Grain	/ Collect	ed (or		site End	Res	# of Ctns	C	Total RCRA	VOC's full list via EPA	PCB via EPA	PFAS via EPA 537.					LAB USE ONLY: Lab Sample # / Comments:	
DW-14	DW/GW Grat	Date 4/7/22			Time	-	7	_	X	X	X		200		-	$\vdash$	see scur	
	Grad	1///24																
								-										
Customer Remarks / Special Conditions / VOC full list, Total RCRA 8 Metals, PCE	В	Type of Ice Packing Ma		Wet d:	Blue I	Dry	None			3 1000	RT HC	26.60	RESENT (<	72 hours)	YN	N/A	LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm ID#: Cooler 1 Temp Upon Receipt: oC	
All sampled via drinking water method	ods	Radchem sa	ample(s) s	creened (<5	00 cpm):	Y 1	N/	A		11/19656	ples re	UP:		t Courie	Pace	Courier	Cooler 1 Therm Corr. Factor: of Cooler 1 Corrected Temp: oC Comments:	
Relinquished by/Company: (Signature)			1115	Received b	Company	/: (Signa	ture)	-pa	4		Date/	Time:	111	Table		JSE ONLY	100000000	
Relinquished by/Company: (Signature)	aa	ate/Time: 4/8/22	1250	Received b	/Company	y: (Signa	ture)	_			Date/	rime: -22	12:19	Acctr Temp	late:		Trip Blank Received: Y N NA HCL MeOH TSP Other	
Relinquished by/Company: (Signature)		ate/Time:		Received b	y/Company	/: (Signa	ture)				Date/	Time:		PM: PB:			Non Conformance(s): Page: YES / NO of:	

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

Pace Analytical

### SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC  2. Custody Seal on Cooler/Box Present: ☐ Yes	No		5. Packing Materi	Bubble Wrap	☑ Bubb		<u>_</u>
(If yes)Seals Intact: ☐ Yes ☐ No (leave blank 3. Thermometer: 123456 ABC (D)EF		vere pres	1	Wet ☐ Blue ☐ None			
4. Cooler Temperature: 0.9/0.3 0.8/0.0 0.3/0. Temp should be above freezing to 6°C (Initial/Corrected)				°C or under 0°C, was the PN		:□ Yes	. □ No
All	discrepanc	ies will be	written out in the comments section bel	ow.			
	Yes	No	The second second		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)		1	All containers needing acid/base pres. Ha <u>CHECKED</u> ?: exceptions: VOA, coliform, container with a septum cap or preserved to	LLHg, O&G, and any	1		
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Circle: FINO3 (<2) H2SO4 (<2) NaOH (>10) Nany non-conformance to pH recommendation count form	aOH/ZnAc (>9) s will be noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pesi	t/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		1	Residual Chlorine Check (Total/Amenable	/Free Cyanide)			1
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?				/
Containers Intact?:	1,		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	<b>V</b>		Trip Blank Present?			/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:				/
COMMENTS:							

COC	PAGE	1_ of _	
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## Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance	that	are	out	of	conformance	*
-----------------------------	------	-----	-----	----	-------------	---

		IXIC	2 - 2													V			2.0								re out or		
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	Joean	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	ВРЗЕ	BP3S	вьзв	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3			3																				W7	/		
2			/10/11																1										
3			-																										
4				- 3																						-			
5			1 12																										
6	12		1,11																										
7																													
8																													
9										- 11						11			11										11 1
10				- 4										E									-						
11												E																	-
12												-																	

#### Container Codes

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

# Plastic / Misc. BP4U 125mL unpreserved plastic

BP4N	125mL HNO3 plastic	
BP4S	125mL H2SO4 plastic	

Syringe Kit	LL Cr+6 sampling kit	
7 0		

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures





#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313436001	DW-15	Drinking Water	04/07/22 09:50	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313436001	DW-15	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313436001	DW-15					
EPA 200.8 EPA 200.8	Arsenic Barium	2.7 290	ug/L ug/L	1.0 2.0	04/19/22 06:28 04/19/22 07:55	



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

Sample: DW-15	Lab ID: 503	13436001	Collected: 04/07/2	22 09:50	Received: 04	/08/22 12:50 I	Matrix: Drinking	g Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua		
505 GCS PCB-TOX-TCH	Analytical Meth	nod: EPA 50	05 Preparation Meth	od: EPA	505					
	Pace Analytica	l Services -	Ormond Beach							
Chlordane (Technical)	ND	ug/L	0.22	1	04/13/22 03:18	04/13/22 12:59	57-74-9			
PCB-1016 (Aroclor 1016)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	12674-11-2			
PCB-1221 (Aroclor 1221)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	11104-28-2			
PCB-1232 (Aroclor 1232)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	11141-16-5			
PCB-1242 (Aroclor 1242)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	53469-21-9			
PCB-1248 (Aroclor 1248)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	12672-29-6			
PCB-1254 (Aroclor 1254)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	11097-69-1			
PCB-1260 (Aroclor 1260)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	11096-82-5			
PCB, Total	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 12:59	1336-36-3			
Toxaphene	ND	ug/L	1.1	1	04/13/22 03:18					
200.8 MET ICPMS	Analytical Meth	nod: EPA 20	00.8 Preparation Me	thod: EP	A 200.8					
	Pace Analytica	l Services -	Indianapolis							
Arsenic	2.7	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:28	7440-38-2	N2		
Barium	290	ug/L	2.0	2	04/15/22 02:00	04/19/22 07:55	7440-39-3	N2		
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00			N2		
Chromium	ND	ug/L	2.0	1	04/15/22 02:00			N2		
_ead	ND	ug/L	1.0	1		04/19/22 06:28		N2		
Selenium	ND	ug/L	2.0	1	04/15/22 02:00			N2		
Silver	ND	ug/L	0.50	1	04/15/22 02:00			N2		
245.1 Mercury	Analytical Meth	nod: EPA 24	45.1 Preparation Me	thod: EP	A 245.1					
,	Pace Analytica									
Mercury	ND	ug/L	0.20	1	04/19/22 09:38	04/19/22 18:50	7439-97-6			
524.2 MSV	Analytical Meth	Analytical Method: EPA 524.2								
	Pace Analytica									
Benzene	ND	ug/L	0.50	1		04/13/22 07:23	3 71-43-2	N2		
Bromobenzene	ND	ug/L	0.50	1		04/13/22 07:23	108-86-1	N2		
Bromodichloromethane	ND	ug/L	1.0	1		04/13/22 07:23	3 75-27-4	N2		
Bromoform	ND	ug/L	1.0	1		04/13/22 07:23	3 75-25-2	N2		
Bromomethane	ND	ug/L	5.0	1		04/13/22 07:23	74-83-9	N2		
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 07:23	56-23-5	N2		
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 07:23	108-90-7	N2		
Chloroethane	ND	ug/L	0.50	1		04/13/22 07:23		N2		
Chloroform	ND	ug/L	1.0	1		04/13/22 07:23		N2		
Chloromethane	ND	ug/L	1.0	1		04/13/22 07:23		N2		
2-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 07:23		N2		
4-Chlorotoluene	ND	ug/L	0.50	1		04/13/22 07:23		N2		
Dibromochloromethane	ND ND	ug/L	1.0	1		04/13/22 07:23		N2		
Dibromomethane	ND ND	•	0.50			04/13/22 07:23				
		ug/L		1		04/13/22 07:23		N2		
1,2-Dichlorobenzene	ND	ug/L	0.50	1				N2		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:23		N2		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:23		N2		
1,1-Dichloroethane	ND	ug/L	0.50	1		04/13/22 07:23	75-34-3	N2		



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

Sample: DW-15	Lab ID: 503	Collected: 04/07/2	22 09:50	Received: 0	04/08/22 12:50 I	12:50 Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
524.2 MSV	Analytical Meth	nod: EPA 52	24.2						
	Pace Analytical Services - Indianapolis								
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 07:23	107-06-2	N2	
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:23	75-35-4	N2	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:23	156-59-2	N2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 07:23	156-60-5	N2	
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:23	78-87-5	N2	
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:23	142-28-9	N2	
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 07:23	594-20-7	N2	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 07:23	563-58-6	N2	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 07:23	10061-01-5	N2	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 07:23	10061-02-6	N2	
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 07:23	100-41-4	N2	
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 07:23	75-09-2	N2	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 07:23	1634-04-4	N2	
Styrene	ND	ug/L	0.50	1		04/13/22 07:23	100-42-5	N2	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 07:23	630-20-6	N2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 07:23	79-34-5	N2	
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 07:23	127-18-4	N2	
Toluene	ND	ug/L	1.0	1		04/13/22 07:23	108-88-3	N2	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 07:23	120-82-1	N2	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 07:23	71-55-6	N2	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 07:23	79-00-5	N2	
Trichloroethene	ND	ug/L	0.50	1		04/13/22 07:23	79-01-6	N2	
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 07:23	96-18-4	N2	
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 07:23	75-01-4	N2	
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 07:23	1330-20-7	N2	
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 07:23		N2	
o-Xylene	ND	ug/L	0.50	1		04/13/22 07:23		N2	
Surrogates		3							
4-Bromofluorobenzene (S)	93	%.	70-130	1		04/13/22 07:23	460-00-4		
Dibromofluoromethane (S)	95	%.	70-130	1		04/13/22 07:23	1868-53-7		
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 07:23	2037-26-5		



Project: M20032 Muncie Phase II

Pace Project No.:

50313436

QC Batch:

671367

QC Batch Method: EPA 245.1 Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313436001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313436001

Parameter

Blank Units Result Reporting Limit

Analyzed Qualifiers

Mercury ND 0.20 04/19/22 18:45 ug/L

LABORATORY CONTROL SAMPLE: Parameter

3091673

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

MS

% Rec

111

Qualifiers

Mercury 5.6 113 85-115 ug/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091674

mg/L

5

50313512004 Parameter Units Result <0.000085 Mercury ug/L

MSD MS Spike Spike Conc. Conc.

5

MS Result

5.5

3091675

MSD Result

5.5

MSD % Rec

110

109

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:55 AM

Mercury

3091676

Parameter Units ug/L

50313512015 Result <0.000085 mg/L

Spike Conc. 5

MS Result 5.5

MS % Rec

% Rec Limits

70-130

70-130

Qualifiers

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313436001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313436001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
∟ead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

QC Batch: 670792 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313436001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313436001

			Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313436001

Danasatan	11.26	Blank	Reporting	A b d	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130	N2
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130	N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130	N2
1,1-Dichloroethane	ug/L	20	19.2	96	70-130	N2
1,1-Dichloroethene	ug/L	20	22.6	113	70-130	N2
1,1-Dichloropropene	ug/L	20	22.0	110	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130	N2
1,2-Dichloroethane	ug/L	20	19.6	98	70-130	N2
1,2-Dichloropropane	ug/L	20	20.3	102	70-130	N2
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130	N2
1,3-Dichloropropane	ug/L	20	22.3	112	70-130	N2
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130	N2
2,2-Dichloropropane	ug/L	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	20	22.2	111	70-130	N2
4-Chlorotoluene	ug/L	20	23.1	116	70-130	N2
Benzene	ug/L	20	19.9	100	70-130	N2
Bromobenzene	ug/L	20	21.1	105	70-130	N2
Bromodichloromethane	ug/L	20	21.1	105	70-130	N2
Bromoform	ug/L	20	23.7	118	70-130	N2
Bromomethane	ug/L	20	15.5	78	70-130	N2
Carbon tetrachloride	ug/L	20	21.6	108	70-130	N2
Chlorobenzene	ug/L	20	22.5	113	70-130	N2
Chloroethane	ug/L	20	18.8	94	70-130	N2
Chloroform	ug/L	20	18.3	92	70-130	N2
Chloromethane	ug/L	20	17.3	86	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130	N2
Dibromochloromethane	ug/L	20	22.9	114	70-130	N2
Dibromomethane	ug/L	20	21.5	107	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
ylbenzene	ug/L		22.1	110	70-130	N2
p-Xylene	ug/L	40	44.8	112	70-130	N2
hyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
hylene Chloride	ug/L	20	18.7	94	70-130	N2
ylene	ug/L	20	22.3	112	70-130	N2
rene	ug/L	20	22.7	113	70-130	N2
achloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
s-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
l chloride	ug/L	20	16.8	84	70-130	N2
ene (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
omofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND		23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

MATRIX SPIKE SAMPLE:	3088897		0 "			a. 5	
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

SAMPLE DUPLICATE: 3088896		50313430001	Dun		Max	
Parameter	Units	Result	Dup Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L		ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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

#### **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

SAMPLE DUPLICATE: 3088896		50040400004	D			
Davasatas	Haita	50313430001	Dup	DDD	Max	O I:f:
Parameter	Units	Result	Result	RPD	RPD 	Qualifiers —
Benzene	ug/L	ND	ND		20	) N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
m&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
Tetrachloroethene	ug/L	ND	ND		20	) N2
Toluene	ug/L	ND	ND		20	) N2
trans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
trans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Trichloroethene	ug/L	ND	ND		20	) N2
Vinyl chloride	ug/L	ND	ND		20	) N2
Xylene (Total)	ug/L	ND	ND		20	) N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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EPA 505

Analysis Method:

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 50313436001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313436001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 10:55 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4478000					4478001							
			MS	MSD								
	5	0313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	4478003											
	9.	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

#### **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**

Date: 04/21/2022 10:55 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313436

Date: 04/21/2022 10:55 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313436001	DW-15	EPA 505	815516	EPA 505	815530
50313436001	DW-15	EPA 200.8	671085	EPA 200.8	671359
50313436001	DW-15	EPA 245.1	671367	EPA 245.1	671892
50313436001	DW-15	EPA 524.2	670792		

#### LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or **CHAIN-OF-CUSTODY Analytical Request Document** MTJL Log-in Number Here Pace Analytical Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Billing Information: Company: Mundell and Associates, Inc. ALL BOLD OUTLINED AREAS are for LAB USE ONLY 110 S Downey Ave, Indianapolis, IN 46219 Address: 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 8 0 Report To: Luke Johnstone Email To: Ljohnstone@mundellassociates.com \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Site Collection Info/Address: Copy To: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water 4608 S Hoyt Ave Muncie, Indiana Lab Profile/Line: Analyses Customer Project Name/Number: County/City: Time Zone Collected: Lab Sample Receipt Checklist: M20032 Muncie Phase II / Muncie [ ]PT [ ]MT [ ]CT [X]ET Hg) Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Compliance Monitoring? Custody Signatures Present Y N NA Site/Facility ID #: for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com [ ] Yes [ ] No 245.1 Bottles Intact DW PWS ID #: Purchase Order #: Collected By (print): Correct Bottles Luke Johnstone Quote #: **DW Location Code:** (and Sufficient Volume Samples Received on Ice Turnaround Date Required: Immediately Packed on Ice: Collected By (signature): Glass ( EPA 200.8 VOA - Headspace Acceptable Y N NA [x] Yes [] No USDA Regulated Soils Rush: (Expedite Charges Apply) Field Filtered (if applicable): Sample Disposal: Samples in Holding Time 5 [x]No [x ] Dispose as appropriate [ ] Same Day [ ] Next Day [ ] Yes Residual Chlorine Present Plastic (P) Cl Strips: ] Return Total RCRA 8 Metals via [ ] 2 Day [ ] 3 Day Sample pH Acceptable ] Archive: [ ] 4 Day [ ] 5 Day Analysis: pH Strips: [ ] Hold: 537 Sulfide Present VOC's full list via Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Container Type: Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) sis LAB USE ONLY: Collected (or # of Comp / Composite End PFAS Matrix \* Composite Start) CI Ctns Customer Sample ID Grab PCB Time Time Date 7 G/P X X X DW-15 DW/GW 9:50 Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A Type of Ice Used: Wet Blue Dry None VOC full list, Total RCRA 8 Metals, PCB Lab Tracking #: Packing Material Used: Therm ID#:

Y N NA Y N NA Lead Acetate Strips: Lab Sample # / Comments: SCUR LAB Sample Temperature Info: Temp Blank Received: Y Cooler 1 Temp Upon Receipt: oC All sampled via drinking water methods Cooler 1 Therm Corr. Factor: oC Samples received via: Radchem sample(s) screened (<500 cpm): Y N NA Cooler 1 Corrected Temp: FEDEX UPS Client Courier Pace Courier Received by/Company: (Signature) MTJL LAB USE ONLY Relinquished by/Company: (Signature) Date/Time: 4/8/22 min Table #: Date/Time: Acctnum: Trip Blank Received: Y N NA Relinquished by/Company: (Signature) Template: HCL MeOH TSP Other relogin: Date/Time: PM: Non Conformance(s): Relinquished by/Company: (Signature Page: YES / NO PB:

Y N NA

Y N NA

Y N NA

Y N NA

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

Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents				-				
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAG	CE U	SPS [	5. Packing Material:	☐ Bubble Wrap	Bubb	le Bags		
2. Custody Seal on Cooler/Box Present:  Yes	☑ No			□None	☐ Other			
(If yes)Seals Intact:		ere prese	nt)					
3. Thermometer: 123456 ABC () EF			6. Ice Type: Wes	☐ Blue ☐ None				
4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/0 Temp should be above freezing to 6°C (Initial/Corrected)	<u>).(</u>		7. If temp. is over 6°C or	under 0°C, was the PM	I notified?	: 🗆 Yes	No No	
All	discrepanci	es will be	written out in the comments section below.					
	Yes	No			Yes	No	N/A	
USDA Regulated Soils? (HI, ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	All containers needing acid/base pres. Have b CHECKED? exceptions: VOA, coliform, LLH container with a septum cap or preserved with	, O&G, and any	1			
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:	,	Residual Chlorine Check (SVOC 625 Pest/PC	3 608)	Present	Absent	N/A	
Rush TAT Requested (4 days or less):	7	<b>\</b>	Residual Chlorine Check (Total/Amenable/Fre	e Cyanide)			1	
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	V		Trip Blank Present?			/		
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:					
COMMENTS:								

COC	PAGE	of I	

## **Sample Container Count**

MeOH (only)

\*\* Place a RED dot on containers

that	are	out	of	conf	for	mance	٠
PL ICY	CAL C	Out	OI.	COLL	U	THE ICC	

		Kit	3 00					- 1									-1									that a	are out of	conform	nance **
COC Line Item	WGFU	R	Heel	VOA VIAL HS (>6mm)	VG9U	реэд	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3		TH.	3													1							W7	1		111
2								II																					
3	_																												
4									7																				
5		11																											
6		hi																											
7																1													
8	10.11		-																										
9	2.4																												11 7
10											1																		100
11																													
12					1 - 4				-												,						LET		

#### Container Codes

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

## Plastic / Misc.

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

Syringe Kit	LL Cr+6 sampling kit	

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification: FL NELAC Re

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illiania Cartification # 200000

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022

New York Certification #: 11608 North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313412001	DW-16	Drinking Water	04/07/22 10:20	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
			Analysts	————	Laboratory
50313412001	DW-16	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313412001	DW-16					
EPA 200.8 EPA 200.8	Arsenic Barium	1.2 131	ug/L ug/L	1.0 1.0	04/19/22 02:25 04/19/22 02:25	N2 N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

Sample: DW-16	Lab ID:	50313412001	Collected: 0	04/07/22	2 10:20	Received: 04	/08/22 12:50 I	/latrix: Drinkino	g Water
Parameters	Results	Units	Report L	_imit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical	Method: EPA 50	)5 Preparation	Metho	d: EPA :	505			
	Pace Anal	ytical Services -	Ormond Beac	:h					
Chlordane (Technical)	NI	D ug/L		0.21	1	04/13/22 03:18	04/13/22 13:16	57-74-9	
PCB-1016 (Aroclor 1016)	NI	•		0.11	1	04/13/22 03:18	04/13/22 13:16	12674-11-2	
PCB-1221 (Aroclor 1221)	NI	O ug/L		0.11	1	04/13/22 03:18	04/13/22 13:16	11104-28-2	
PCB-1232 (Aroclor 1232)	NI	_		0.11	1	04/13/22 03:18	04/13/22 13:16	11141-16-5	
PCB-1242 (Aroclor 1242)	NI	•		0.11	1	04/13/22 03:18	04/13/22 13:16	53469-21-9	
PCB-1248 (Aroclor 1248)	NI	J		0.11	1		04/13/22 13:16		
PCB-1254 (Aroclor 1254)	NI	•		0.11	1		04/13/22 13:16		
PCB-1260 (Aroclor 1260)	NI	•		0.11	1		04/13/22 13:16		
PCB, Total	NI	-		0.11	1		04/13/22 13:16		
oxaphene	NI	-		1.1	1		04/13/22 13:16		
·		· ·							
200.8 MET ICPMS	•	Method: EPA 20	•	on Meth	nod: EP/	4 200.8			
		ytical Services -	mulanapolis	_					
Arsenic	1.	U		1.0	1		04/19/22 02:25		N2
Barium	13	<b>1</b> ug/L		1.0	1	04/15/22 02:00	04/19/22 02:25	7440-39-3	N2
Cadmium	NI	O ug/L		0.20	1		04/19/22 02:25		N2
Chromium	NI	O ug/L		2.0	1	04/15/22 02:00	04/19/22 02:25	7440-47-3	N2
_ead	NI	O ug/L		1.0	1	04/15/22 02:00	04/19/22 02:25	7439-92-1	N2
Selenium	NI	O ug/L		2.0	1	04/15/22 02:00	04/19/22 02:25	7782-49-2	N2
Silver	NI	O ug/L		0.50	1	04/15/22 02:00	04/19/22 02:25	7440-22-4	N2
245.1 Mercury	Analytical	Method: EPA 24	15.1 Preparation	on Meth	nod: EP/	A 245.1			
,		ytical Services -							
Mercury	NI	D ug/L		0.20	1	04/19/22 09:33	04/19/22 17:01	7439-97-6	
524.2 MSV	Analytical	Method: EPA 52	24.2						
)24.2 IVI3 V	•	ytical Services -							
<b></b>		•	maianapono	0.50	4		04/40/00 40:00	74 40 0	NO
Benzene	NI	0		0.50	1		04/12/22 18:30		N2
Bromobenzene	NI	0		0.50	1		04/12/22 18:30		N2
Bromodichloromethane	NI	0		1.0	1		04/12/22 18:30		N2
Bromoform	NI	0		1.0	1		04/12/22 18:30		N2
Bromomethane	NI	0		5.0	1		04/12/22 18:30		N2
Carbon tetrachloride	NI	0		0.50	1		04/12/22 18:30		N2
Chlorobenzene	NI	Ū		0.50	1		04/12/22 18:30		N2
Chloroethane	NI	D ug/L		0.50	1		04/12/22 18:30	75-00-3	N2
Chloroform	NI	D ug/L		1.0	1		04/12/22 18:30	67-66-3	N2
Chloromethane	NI	O ug/L		1.0	1		04/12/22 18:30	74-87-3	N2
	NI	O ug/L		1.0	1		04/12/22 18:30	95-49-8	N2
2-Chlorotoluene	NI	D ug/L		0.50	1		04/12/22 18:30	106-43-4	N2
				1.0	1		04/12/22 18:30	124-48-1	N2
I-Chlorotoluene	NI	D ug/L		1.0					
I-Chlorotoluene Dibromochloromethane	NI	•			1		04/12/22 18:30	74-95-3	N2
I-Chlorotoluene Dibromochloromethane Dibromomethane	NI NI	O ug/L		0.50	1				N2 N2
I-Chlorotoluene Dibromochloromethane Dibromomethane ,2-Dichlorobenzene	NI NI NI	O ug/L O ug/L		0.50 0.50	1 1		04/12/22 18:30	95-50-1	N2
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	NI NI	O ug/L O ug/L O ug/L		0.50	1			95-50-1 541-73-1	



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

Sample: DW-16	Lab ID: 5031	3412001	Collected: 04/07/2	22 10:20	Received: 0	04/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Meth	od: EPA 52	24.2					
	Pace Analytical	Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/12/22 18:30	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:30	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:30	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/12/22 18:30	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:30	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:30	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/12/22 18:30	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/22 18:30	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 18:30	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/12/22 18:30	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/12/22 18:30	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/12/22 18:30	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/22 18:30	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/12/22 18:30	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/12/22 18:30	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/22 18:30	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/12/22 18:30	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/12/22 18:30	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/12/22 18:30	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/12/22 18:30	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/12/22 18:30	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/12/22 18:30	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/12/22 18:30	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/12/22 18:30	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/12/22 18:30	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/12/22 18:30	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/12/22 18:30	95-47-6	N2
Surrogates		-						
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/12/22 18:30	460-00-4	
Dibromofluoromethane (S)	100	%.	70-130	1		04/12/22 18:30	1868-53-7	
Toluene-d8 (S)	105	%.	70-130	1		04/12/22 18:30	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313412

QC Batch:

QC Batch Method:

671366

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313412001

METHOD BLANK: Associated Lab Samples:

Parameter

Matrix: Water

50313412001

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Parameter

Date: 04/21/2022 11:08 AM

Units ug/L

50313426001

Conc.

111 85-115

MS

% Rec

103

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

MSD

MS Spike

5

MS

5.6

3091669

5.2

MSD

MSD

% Rec

Max

Mercury

Result ND Spike Conc. Conc. 5

Result

5

Result 5.1 % Rec

102

**RPD** Limits

RPD

20

Qual

MATRIX SPIKE SAMPLE:

3091670

Parameter Units

Units

ug/L

50313435001 Result

Spike Conc.

MS Result MS

% Rec

70-130

Qualifiers

Mercury

ug/L

ND

5

5.6

% Rec 111 Limits

70-130

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.



Analysis Method:

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

QC Batch: 671086
QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

EPA 200.8

Associated Lab Samples: 50313412001

METHOD BLANK: 3090231 Matrix: Water

3090232

ug/L

ug/L

Associated Lab Samples: 50313412001

LABORATORY CONTROL SAMPLE:

Selenium

Date: 04/21/2022 11:08 AM

Silver

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 02:16	N2
Barium	ug/L	ND	1.0	04/19/22 02:16	N2
Cadmium	ug/L	ND	0.20	04/19/22 02:16	N2
Chromium	ug/L	ND	2.0	04/19/22 02:16	N2
Lead	ug/L	ND	1.0	04/19/22 02:16	N2
Selenium	ug/L	ND	2.0	04/19/22 02:16	N2
Silver	ug/L	ND	0.50	04/19/22 02:16	N2

	0000202	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	38.5	96	85-115	N2
Barium	ug/L	40	39.6	99	85-115	N2
Cadmium	ug/L	40	39.2	98	85-115	N2
Chromium	ug/L	40	41.1	103	85-115	N2
Lead	ug/L	40	41.3	103	85-115	N2

40

40

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	233		3090234							
	_		MS	MSD								
	5	0313412001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	1.2	40	40	39.4	40.2	95	97	70-130	2	20	N2
Barium	ug/L	131	40	40	172	174	102	107	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	37.9	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.4	96	97	70-130	1	20	N2
Lead	ug/L	ND	40	40	41.2	41.6	101	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.6	40.3	94	96	70-130	2	20	N2
Silver	ug/L	ND	40	40	38.4	38.4	96	96	70-130	0	20	N2

40.1

40.2

100

101

85-115 N2

85-115 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

QC Batch: 670791 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313412001

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313412001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/22 16:47	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/12/22 16:47	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/12/22 16:47	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/12/22 16:47	N2
2-Chlorotoluene	ug/L	ND	1.0	04/12/22 16:47	N2
4-Chlorotoluene	ug/L	ND	0.50	04/12/22 16:47	N2
Benzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Bromodichloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Bromoform	ug/L	ND	1.0	04/12/22 16:47	N2
Bromomethane	ug/L	ND	5.0	04/12/22 16:47	N2
Carbon tetrachloride	ug/L	ND	0.50	04/12/22 16:47	N2
Chlorobenzene	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroethane	ug/L	ND	0.50	04/12/22 16:47	N2
Chloroform	ug/L	ND	1.0	04/12/22 16:47	N2
Chloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Dibromochloromethane	ug/L	ND	1.0	04/12/22 16:47	N2
Dibromomethane	ug/L	ND	0.50	04/12/22 16:47	N2
Ethylbenzene	ug/L	ND	0.50	04/12/22 16:47	N2
m&p-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/22 16:47	N2
Methylene Chloride	ug/L	ND	2.5	04/12/22 16:47	N2
o-Xylene	ug/L	ND	0.50	04/12/22 16:47	N2
Styrene	ug/L	ND	0.50	04/12/22 16:47	N2
Tetrachloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Toluene	ug/L	ND	1.0	04/12/22 16:47	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

METHOD BLANK: 3088889 Matrix: Water

Associated Lab Samples: 50313412001

5 .	11.5	Blank	Reporting		0 ""
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/12/22 16:47	N2
Trichloroethene	ug/L	ND	0.50	04/12/22 16:47	N2
Vinyl chloride	ug/L	ND	0.50	04/12/22 16:47	N2
Xylene (Total)	ug/L	ND	0.50	04/12/22 16:47	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/12/22 16:47	
Dibromofluoromethane (S)	%.	98	70-130	04/12/22 16:47	
Toluene-d8 (S)	%.	106	70-130	04/12/22 16:47	

LABORATORY CONTROL SAMPLE:	3088890					
_		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.0	115	70-130	N2
1,1,1-Trichloroethane	ug/L	20	19.8	99	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	22.3	111	70-130	N2
1,1,2-Trichloroethane	ug/L	20	21.8	109	70-130	N2
1,1-Dichloroethane	ug/L	20	19.1	96	70-130	N2
1,1-Dichloroethene	ug/L	20	20.8	104	70-130	N2
1,1-Dichloropropene	ug/L	20	21.9	109	70-130	N2
1,2,3-Trichloropropane	ug/L	20	22.8	114	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	23.9	119	70-130	N2
1,2-Dichlorobenzene	ug/L	20	22.7	113	70-130	N2
1,2-Dichloroethane	ug/L	20	18.8	94	70-130	N2
1,2-Dichloropropane	ug/L	20	19.7	99	70-130	N2
1,3-Dichlorobenzene	ug/L	20	21.9	109	70-130	N2
1,3-Dichloropropane	ug/L	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	20	21.7	109	70-130	N2
2,2-Dichloropropane	ug/L	20	20.2	101	70-130	N2
2-Chlorotoluene	ug/L	20	22.4	112	70-130	N2
4-Chlorotoluene	ug/L	20	22.5	113	70-130	N2
Benzene	ug/L	20	19.7	99	70-130	N2
Bromobenzene	ug/L	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	20	20.3	101	70-130	N2
Bromoform	ug/L	20	23.2	116	70-130	N2
Bromomethane	ug/L	20	16.7	84	70-130	N2
Carbon tetrachloride	ug/L	20	21.5	108	70-130	N2
Chlorobenzene	ug/L	20	22.1	110	70-130	N2
Chloroethane	ug/L	20	18.1	91	70-130	N2
Chloroform	ug/L	20	17.9	90	70-130	N2
Chloromethane	ug/L	20	17.4	87	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.1	100	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	21.9	109	70-130	N2
Dibromochloromethane	ug/L	20	22.5	112	70-130	N2
Dibromomethane	ug/L	20	20.6	103	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

LABORATORY CONTROL SAMPLE:	3088890					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		21.9	110	70-130	N2
m&p-Xylene	ug/L	40	45.2	113	70-130	N2
Methyl-tert-butyl ether	ug/L	20	19.2	96	70-130	N2
Methylene Chloride	ug/L	20	17.6	88	70-130	N2
o-Xylene	ug/L	20	22.0	110	70-130	N2
Styrene	ug/L	20	22.4	112	70-130	N2
Tetrachloroethene	ug/L	20	22.5	112	70-130	N2
Toluene	ug/L	20	21.0	105	70-130	N2
rans-1,2-Dichloroethene	ug/L	20	19.5	98	70-130	N2
rans-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	N2
Trichloroethene	ug/L	20	20.2	101	70-130	N2
Vinyl chloride	ug/L	20	16.3	81	70-130	N2
Xylene (Total)	ug/L	60	67.2	112	70-130	N2
4-Bromofluorobenzene (S)	%.			96	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

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.



EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 50313412001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313412001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY	CONTROL	CAMPLE.	4477000
LABURATURY	CONTROL	SAIVIPLE:	4477980

Date: 04/21/2022 11:08 AM

	Limits	Qualifiers
PCB-1016 (Aroclor 1016) ug/L 0.71 0.72 101 PCB-1260 (Aroclor 1260) ug/L 0.72 0.79 110	70-130 70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPL	.ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	 ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SP	IKE DUPLIC	CATE: 4478	002		4478003							
	9	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

#### **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**

Date: 04/21/2022 11:08 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313412

Date: 04/21/2022 11:08 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313412001	DW-16	EPA 505	815516	EPA 505	815530
50313412001	DW-16	EPA 200.8	671086	EPA 200.8	671361
50313412001	DW-16	EPA 245.1	671366	EPA 245.1	671891
50313412001	DW-16	EPA 524.2	670791		

# Pace Analytical

Report To: Luke Johnstone

Copy To:

Company: Mundell and Associates, Inc.

Relinquished by/Company: (Signature)

Address: 110 S Downey Ave, Indianapolis, IN 46219

#### **CHAIN-OF-CUSTODY Analytical Request Document**

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

110 S Downey Ave, Indianapolis, IN 46219

Muncie, Indiana

Received by/Company: (Signature)

Email To: Ljohnstone@mundellassociates.com

Billing Information:

Date/Time:

Site Collection Info/Address:

4400 S Hoyt Ave

Time Zone Collected: Customer Project Name/Number: County/City: Lab Sample Receipt Checklist: M20032 Muncie Phase II / Muncie [ ]PT [ ]MT [ ]CT [X]ET Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com [ ] Yes [ ] No Total RCRA 8 Metals via EPA 200.8 (and 245.1 Bottles Intact YNNA DW PWS ID #: Purchase Order #: Collected By (print): Correct Bottles Y N NA Luke Johnstone DW Location Code: Sufficient Volume Y N NA Quote #: Glass (G) Samples Received on Ice Y N NA Collected By (signature): Turnaround Date Required: Immediately Packed on Ice: VOA - Headspace Acceptable Y N NA me [x] Yes [ ] No USDA Regulated Soils YNNA Rush: (Expedite Charges Apply) Field Filtered (if applicable): Sample Disposa Samples in Holding Time Y N NA 5 [x]No Residual Chlorine Present Y N NA x Dispose as appropriate [ ] Same Day [ ] Next Day [ ] Yes Plastic (P) Cl Strips: Return [ ]2 Day [ ]3 Day Sample pH Acceptable YNNA Archive: Analysis: [ ] 4 Day [ ] 5 Day pH Strips: | | Hold: 537 Y N NA VOC's full list via Sulfide Present Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Container Type: Lead Acetate Strips: EPA : Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) N. LAB USE ONLY: # of Comp / Collected (or Res PCB via Composite End Lab Sample # / Comments: PFAS Customer Sample ID Matrix \* Composite Start) CL Ctns Grab Time Time G/P X DW-16 4/7/22 1020 7 X DW/GW LAB Sample Temperature Info: Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A Type of Ice Used: Wet Blue None Temp Blank Received: Y N VOC full list. Total RCRA 8 Metals, PCB Packing Material Used: Lab Tracking #: Therm ID#: Cooler 1 Temp Upon Receipt: oC All sampled via drinking water methods Cooler 1 Therm Corr. Factor: oC Samples received via: Cooler 1 Corrected Temp: Radchem sample(s) screened (<500 cpm): Y N NA FEDEX UPS Client Courier Pace Courier comments. MTJL LAB USE ONLY eceived by/Company:/(Signature) Relinquished by/Company: (Signature) Date/Time: Table #: Date/Time: Acctnum: Trip Blank Received: Y N NA Relinquished by/Company: (Signature) Date/Time: Template: HCL MeOH TSP Other Prelogin:

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

\*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate,

Lab Project Manager:

Lab Profile/Line:

Non Conformance(s):

YES / NO

Page:

Page 16 of 18

Container Preservative Type \*\*

(C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water\_

PM:

PB:

Analyses

8 0

1 3

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

Pace Analytical"

# SAMPLE CONDITION UPON RECEIPT FORM

. Courier: FED EX UPS CLIENT PAC	E 🗆 U	SPS [	OTHER		manus area	1		
	/			5. Packing Material:	☐ Bubble Wrap	▼ Bubbl	e Bags	
2. Custody Seal on Cooler/Box Present:  Yes				Y =	None	☐ Other		
If yes)Seals Intact:    Yes    No (leave blank	if no seals v	were prese	ent)	1				
3. Thermometer: 123456 ABCOEF				6. Ice Type: Wet	☐ Blue ☐ None			
Temp should be above freezing to 6°C (Initial/Corrected)	1			7. If temp. is over 6°C or	under 0°C, was the PN	notified?	: 🗆 Yes	□ No
All	discrepanc	ies will be	written out in the	comments section below.				
	Yes	No				Yes	No	N/A
JSDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, DK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		/	CHECKED?: exce	ding acid/base pres. Have be options: VOA, coliform, LLHg, optum cap or preserved with H	O&G, and any			
Short Hold Time Analysis (48 hours or less)? Analysis:		1	Any non-conforman	4 (<2) NaOH (>10) NaOH/Z ce to pH recommendations will b	nAc (>9) be noted on the container	1		
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		<b>\</b>	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)			1
Custody Signatures Present?	/		Headspace Wisco	nsin Sulfide?				/
Containers Intact?:	1		Headspace in VOA See Containter Co	Vials (>6mm): unt form for details		Present	Absent	No VOA Vials Sent
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present	?			/	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custod	y Seals?:				/
COMMENTS:								

COC PAGE	of
----------	----

# Sample Container Count

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

100		Y	-				
that	are	Out	nf	conf	or	mance	۰

		Kit																								that a	re out o	conform	nance **
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	Design	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	ВРЗО	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit	Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3			3												9	1							W7	1		
2			0						1																				
3																													
4			111	19.5																		100							
5			-1											-1															
6																													
7																													
8																										1			
9																													-
10						12																							
11																													
12				-	100	1.1	Harris	-												-					-				

# Container Codes

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

# Plastic / Misc.

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

Syringe Kit LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification: FL NELAC Re

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Notifi Dakola Gertification #. K-2

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





# **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313432001	DW-17	Drinking Water	04/07/22 10:50	04/08/22 12:50



# **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313432001	DW-17	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



# **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313432001	DW-17					
EPA 200.8	Arsenic	1.5	ug/L	1.0	04/19/22 06:03	N2
EPA 200.8	Barium	2.6	ug/L	1.0	04/19/22 06:03	N2
EPA 200.8	Cadmium	0.33	ug/L	0.20	04/19/22 06:03	N2
EPA 200.8	Lead	188	ug/L	2.0	04/19/22 07:47	N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

Sample: DW-17	Lab ID:	50313432001	Collected: 04/07	//22 10:50	Received: 04	1/08/22 12:50	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical I	Method: EPA 50	5 Preparation Me	hod: EPA	505			
	Pace Analy	tical Services -	Ormond Beach					
Chlordane (Technical)	ND	ug/L	0.2	1	04/13/22 03:18	04/13/22 10:58	3 57-74-9	
PCB-1016 (Aroclor 1016)	ND	•	0.1	1	04/13/22 03:18	04/13/22 10:58	3 12674-11-2	
PCB-1221 (Aroclor 1221)	ND	•	0.1	1	04/13/22 03:18	04/13/22 10:58	3 11104-28-2	
PCB-1232 (Aroclor 1232)	ND	_	0.1	1	04/13/22 03:18	04/13/22 10:58	3 11141-16-5	
PCB-1242 (Aroclor 1242)	ND	•	0.1	1		04/13/22 10:58		
PCB-1248 (Aroclor 1248)	ND	Ū	0.1	1	04/13/22 03:18	04/13/22 10:58	3 12672-29-6	
PCB-1254 (Aroclor 1254)	ND	0	0.1			04/13/22 10:58		
PCB-1260 (Aroclor 1260)	ND	•	0.1	1	04/13/22 03:18	04/13/22 10:58	3 11096-82-5	
PCB, Total	ND	_	0.1		04/13/22 03:18			
Toxaphene	ND	_	1.			04/13/22 10:58		
200.8 MET ICPMS	Analytical I	Method: EPA 20	0.8 Preparation M	ethod: EP	PA 200.8			
	Pace Analy	tical Services -	Indianapolis					
Arsenic	1.5	ug/L	1.0	) 1	04/15/22 02:00	04/19/22 06:03	3 7440-38-2	N2
Barium	2.6	-	1.0	) 1	04/15/22 02:00	04/19/22 06:03	3 7440-39-3	N2
Cadmium	0.33		0.20	) 1	04/15/22 02:00	04/19/22 06:03	3 7440-43-9	N2
Chromium	ND	-	2.0	) 1	04/15/22 02:00	04/19/22 06:03	3 7440-47-3	N2
.ead	188	•	2.0	) 2	04/15/22 02:00	04/19/22 07:4	7 7439-92-1	N2
Selenium	ND	•	2.0	) 1	04/15/22 02:00	04/19/22 06:03	3 7782-49-2	N2
Silver	ND	_	0.50		04/15/22 02:00	04/19/22 06:03	3 7440-22-4	N2
245.1 Mercury	Analytical I	Method: EPA 24	5.1 Preparation M	ethod: EP	PA 245.1			
•	Pace Analy	tical Services -	Indianapolis					
Mercury	ND	ug/L	0.20	) 1	04/19/22 09:33	04/19/22 18:28	3 7439-97-6	
524.2 MSV	Analytical I	Method: EPA 52	24.2					
	•	tical Services -						
Benzene	ND	ug/L	0.50	) 1		04/13/22 05:40	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	) 1		04/13/22 05:40	108-86-1	N2
Bromodichloromethane	ND	ug/L	1.0	) 1		04/13/22 05:40	75-27-4	N2
Bromoform	ND	ug/L	1.0	) 1		04/13/22 05:40	75-25-2	N2
Bromomethane	ND	ug/L	5.0	) 1		04/13/22 05:40	74-83-9	N2
Carbon tetrachloride	ND		0.50	) 1		04/13/22 05:40	56-23-5	N2
Chlorobenzene	ND	ug/L	0.50	) 1		04/13/22 05:40	108-90-7	N2
Chloroethane	ND	ug/L	0.50	) 1		04/13/22 05:40	75-00-3	N2
Chloroform	ND	-	1.0	) 1		04/13/22 05:40	0 67-66-3	N2
Chloromethane	ND	-	1.0			04/13/22 05:40	74-87-3	N2
2-Chlorotoluene	ND		1.0	) 1		04/13/22 05:40	95-49-8	N2
I-Chlorotoluene	ND	•	0.50			04/13/22 05:40		N2
Dibromochloromethane	ND	•	1.0			04/13/22 05:40		N2
Dibromomethane	ND	•	0.50			04/13/22 05:40		N2
1,2-Dichlorobenzene	ND	•	0.50			04/13/22 05:40		N2
		~ <i>9</i> ′ <b>–</b>						
	ND	) ua/l	0.50	) 1		04/13/22 05 40	) 541-/3-1	N2
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND	•	0.50 0.50			04/13/22 05:40 04/13/22 05:40		N2 N2



# **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

Sample: DW-17	Lab ID: 503	13432001	Collected: 04/07/2	22 10:50	Received: 0	04/08/22 12:50 N	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
524.2 MSV	Analytical Metl	nod: EPA 52	24.2						
	Pace Analytica	al Services -	Indianapolis						
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 05:40	107-06-2	N2	
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 05:40	75-35-4	N2	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 05:40	156-59-2	N2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 05:40	156-60-5	N2	
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 05:40	78-87-5	N2	
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 05:40	142-28-9	N2	
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 05:40	594-20-7	N2	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 05:40	563-58-6	N2	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 05:40	10061-01-5	N2	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 05:40	10061-02-6	N2	
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 05:40	100-41-4	N2	
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 05:40	75-09-2	N2	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 05:40	1634-04-4	N2	
Styrene	ND	ug/L	0.50	1		04/13/22 05:40	100-42-5	N2	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 05:40	630-20-6	N2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 05:40	79-34-5	N2	
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 05:40	127-18-4	N2	
Toluene	ND	ug/L	1.0	1		04/13/22 05:40	108-88-3	N2	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 05:40	120-82-1	N2	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 05:40	71-55-6	N2	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 05:40		N2	
Trichloroethene	ND	ug/L	0.50	1		04/13/22 05:40	79-01-6	N2	
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 05:40		N2	
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 05:40		N2	
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 05:40		N2	
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 05:40		N2	
o-Xylene	ND	ug/L	0.50	1		04/13/22 05:40		N2	
Surrogates		3	3.00	•					
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/13/22 05:40	460-00-4		
Dibromofluoromethane (S)	97	%.	70-130	1		04/13/22 05:40	1868-53-7		
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 05:40			



Project:

M20032 Muncie Phase II

Pace Project No.:

50313432

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313432001

50313432001

Parameter

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Units ug/L

50313426001

Result

ND

5

5.6

111

MS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

Spike

Conc.

Conc.

5

ND

MSD Spike

MS Result

3091669

5.2

MSD Result

MSD % Rec % Rec

103

85-115

% Rec Limits

Max **RPD** RPD

Qual 20

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:58 AM

Parameter

Parameter

3091670

Units

ug/L

50313435001

5

Spike

MS

5.1

MS

% Rec

70-130

Qualifiers

Mercury

Mercury

Units

ug/L

Result

Conc. 5 Result 5.6 % Rec 111

102

Limits

70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313432001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313432001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	SPIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SI	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

QC Batch: 670792 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313432001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313432001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313432001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130 N2	-
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130 N2	
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2	
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130 N2	
1,1-Dichloroethane	ug/L	20	19.2	96	70-130 N2	
1,1-Dichloroethene	ug/L	20	22.6	113	70-130 N2	
1,1-Dichloropropene	ug/L	20	22.0	110	70-130 N2	
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130 N2	
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130 N2	
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130 N2	
1,2-Dichloroethane	ug/L	20	19.6	98	70-130 N2	
1,2-Dichloropropane	ug/L	20	20.3	102	70-130 N2	
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130 N2	
1,3-Dichloropropane	ug/L	20	22.3	112	70-130 N2	
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130 N2	
2,2-Dichloropropane	ug/L	20	16.4	82	70-130 N2	
2-Chlorotoluene	ug/L	20	22.2	111	70-130 N2	
4-Chlorotoluene	ug/L	20	23.1	116	70-130 N2	
Benzene	ug/L	20	19.9	100	70-130 N2	
Bromobenzene	ug/L	20	21.1	105	70-130 N2	
Bromodichloromethane	ug/L	20	21.1	105	70-130 N2	
Bromoform	ug/L	20	23.7	118	70-130 N2	
Bromomethane	ug/L	20	15.5	78	70-130 N2	
Carbon tetrachloride	ug/L	20	21.6	108	70-130 N2	
Chlorobenzene	ug/L	20	22.5	113	70-130 N2	
Chloroethane	ug/L	20	18.8	94	70-130 N2	
Chloroform	ug/L	20	18.3	92	70-130 N2	
Chloromethane	ug/L	20	17.3	86	70-130 N2	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130 N2	
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130 N2	
Dibromochloromethane	ug/L	20	22.9	114	70-130 N2	
Dibromomethane	ug/L	20	21.5	107	70-130 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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

DRATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
benzene	ug/L		22.1	110	70-130	N2
-Xylene	ug/L	40	44.8	112	70-130	N2
yl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
ylene Chloride	ug/L	20	18.7	94	70-130	N2
lene	ug/L	20	22.3	112	70-130	N2
ene	ug/L	20	22.7	113	70-130	N2
chloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
chloride	ug/L	20	16.8	84	70-130	N2
ne (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
mofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND		23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
rans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
1-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

SAMPLE DUPLICATE: 3088896						
		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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

# **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

SAMPLE DUPLICATE: 3088896		50040400004	D			
Davasatas	Haita	50313430001	Dup	DDD	Max	O I:f:
Parameter	Units	Result	Result	RPD	RPD 	Qualifiers —
Benzene	ug/L	ND	ND		20	) N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
m&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
Tetrachloroethene	ug/L	ND	ND		20	) N2
Toluene	ug/L	ND	ND		20	) N2
trans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
trans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Trichloroethene	ug/L	ND	ND		20	) N2
Vinyl chloride	ug/L	ND	ND		20	) N2
Xylene (Total)	ug/L	ND	ND		20	) N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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.



EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

QC Batch: 815516

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 50313432001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313432001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 10:58 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	_
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4478000				4478001								
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SP	4478003											
	g	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016) PCB-1260 (Aroclor 1260)	ug/L ug/L	ND ND	0.79 0.79	0.78 0.78	0.83 0.76	0.81 0.81	104 96	104 104	70-130 70-130	2 7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

#### **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**

Date: 04/21/2022 10:58 AM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313432

Date: 04/21/2022 10:58 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313432001	DW-17	EPA 505	815516	EPA 505	815530
50313432001	DW-17	EPA 200.8	671085	EPA 200.8	671359
50313432001	DW-17	EPA 245.1	671366	EPA 245.1	671891
50313432001	DW-17	EPA 524.2	670792		

Pace Analytical*		sample via this Condition	-CUSTOD s chain of custody s found at: https:/ Custody is a LEG	constitutes a /info.pacelab	cknowledgmer is.com/hubfs/p	nt and acceptar as-standard-te	nce of the f		s and			LAB	JSE ON	ILY- Aff	ix Wo		0.000000			e or List Pace Workorder Number or er Here		
Company: Mundell and Associates,	Inc.		Billing Infor										ALLI	BOLD	OU	TLIN	IED.	ARE	AS a	are for LAB USE ONLY		
Address: 110 S Downey Ave, Indian	apolis, IN 4621	.9	11050	owney Av	e, Indianap	olis, IN 462	19				Container Preservative Type **					Туре	**			Lab Project Manager:		
Report To: Luke Johnstone			Email To: L	johnstone	@mundella	ssociates.c	om			1 ** Pre		8 ve Type	0 es: (1) n	itric acid	l, (2) su	Ifuric ad	cid, (3)	hydro	chloric	acid, (4) sodium hydroxide, (5) zinc acetate,		
Сору То:			Site Collecti	on Info/Ac		Muncie,	Indiana	1		(6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexano (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) OtherDI								_DI w				
Customer Project Name/Number: M20032 Muncie Phase II			The same of the sa	ounty/City	[1.470 ] [1.450 ] [1.150 ] [1.				HB)				Analy	ses		-	50		Lab Profile/Line: Lab Sample Receipt Checklist: Custody Seals Present/Intact Y N NA			
Phone: 317-630-9060 Email: Ljohnstone@mundellassocia	Site/Facility ID	)#:			Compliance Monitoring? [ ] Yes [ ] No				for				=						Custody Signatures Present Y N NA Collector Signature Present Y N NA			
Collected By (print): Luke Johnstone	Purchase Ord	er#:		DW PWS ID #: DW Location Code:					d 245.1						=				Bottles Intact Y N' NA Correct Bottles Y N NA Sufficient Volume Y N NA			
ollected By (signature):  Turnaround Date Requ			red:		-	ely Packed	on Ice:		Glass (G)	200.8 (and				-						Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA		
Sample Disposal:  [x ] Dispose as appropriate  [] Return  [] Archive:	e Disposal:  Rush: (Expedite Charge pose as appropriate  [ ] Same Day [ ]  um		P- 20-5-4		Field Filtered (if applicable):  [ ] Yes [x] No  Analysis:				s via EPA	EPA 524.2		.1							USDA Regulated Soils Y N NA Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA pH Strips:			
Matrix Codes (Insert in Matrix box below): Drinking Wat Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR),		ir (AR), Tis	(DW), Ground Water (GW), Wastewater (WW), ssue (TS), Bioassay (B), Vapor (V), Other (OT)					RCRA 8 Metal	full list via E	EPA 505	EPA 537.							Sulfide Present Y N NA Lead Acetate Strips:				
Customer Sample ID	Matrix *	Grab	Composit Date		Comp	oosite End Time	Res	# of Ctns	Container	Total RC	VOC's fu	PCB via	PFAS via	-						LAB USE ONLY: Lab Sample # / Comments:  SCE SCUR		
DW-15" DW-13	DW/GW	Grab	1056						G/P	X	х	x								SEE SUIZ		
DW-17			4/7/22	1050				7	6/1	x	X	X										
Customer Remarks / Special Condit	tions / Possible	Hazards:	Type of Ice	Used:	Wet	Blue	Dry	None			SHO	RTHO	LDS P	RESENT	(<72	nours)	: Y	N	N/A	LAB Sample Temperature Info:		
VOC full list, Total RCRA 8 Metal	ls, PCB		Packing Ma	terial Used	d:		511			23	Lab	Tracki	ng#:	1	18					Temp Blank Received: Y N N Therm ID#: Cooler 1 Temp Upon Receipt: o		
All sampled via drinking water n	All sampled via drinking water methods			ample(s) s	creened (<	500 cpm):	- Y - 1	N NA	Tru			ples re	UP:		ent	Courie	er Pac	ce Co	urier	Cooler 1 Therm Corr. Factor: Cooler 1 Corrected Temp: Comments:		
Relinquished by/Combany: (Signate	linquished by/Company: (Signature)  Date		e/Time:	15	Received t	y/Compan	e (Signa	iture)	200			Date/	Time:	- 1	115	Table		B US	E ONL			
		P/Time: Received by/Company: (Signature)					Date/Time: 4-4-22 /2:10			Acctnum: Template: Prelogin:			Trip Blank Received: Y N NA HCL MeOH TSP Other									
			e/Time: Received by/Company: (Signature)						Date/Time: PM:							Non Conformance(s): Page:						

YES / NO

PB:

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

# Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier:  FED EX UPS CLIENT PAC	E U	SPS [	OTHER	5. Packing Material:	☐ Bubble Wrap	Bubble Bags					
2. Custody Seal on Cooler/Box Present: Yes	No				None	☐ Other					
(If yes)Seals Intact: Yes No (leave blank		ere prese	ent)	/							
3. Thermometer: 123456 ABC <b>(D)</b> EF				6. Ice Type: Wet	☐ Blue ☐ None						
4. Cooler Temperature: 0.4/0.7 0.2/0.0 0.3/0 Temp should be above freezing to 6°C (Initial/Corrected)	1			7. If temp. is over 6°C or	under 0°C, was the PM	notified?	∵ ☐ Yes	□ No			
All	discrepanci	es will be	written out in the	comments section below.							
Edit of the Edition o	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)		/	CHECKED?: exc container with a s	eding acid/base pres. Have be eptions: VOA, coliform, LLHg, eptum cap or preserved with H	O&G, and any	1					
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Any non-conformaticount form	1							
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine	e Check (SVOC 625 Pest/PCB	608)	Present	Absent	N/A			
Rush TAT Requested (4 days or less):		<b>/</b>	Residual Chlorine	Check (Total/Amenable/Free	Cyanide)	1		1			
Custody Signatures Present?	<b>/</b>		Headspace Wisco	onsin Sulfide?							
Containers Intact?:	1/		Headspace in VO See Containter Co	A Vials (>6mm): ount form for details		Present	Absent	No VOA Vials Ser			
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	V		Trip Blank Presen	t?			/				
Extra labels on Terracore Vials? (soils only)			Trip Blank Custoo	ly Seals?:				/			
COMMENTS:											

COC PAGE	1 of 1
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## **Sample Container Count**

SBS DI MeOH (only) BK

" Place a RED dot on containers

36 -4	Security 1					_
that	are	out (	10	cont	ormance	7

		KIT																									nat a	e out of	comorma	arice
COC Line Item	WGFU	R	PG9H	VOA VIAL HS (>6mm)	VG9U	Dead	VG9T	AGOU	AG1H	AG10	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	ВРЗО	BP3N	BP3F	BP3S	BP3B	BP3Z	ССЗН	Syringe		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc I pH >9	NaOH pH>10
1			3		M.	3		121											1				1				WT	/	-	
2																											1			
3																														
4		-	1																											
5		-																												
6																														
7																	-													
8																				7 7							1			
9					- 4																									
10																														
11							100		7		-																			
12																							2.1		-					-

## Container Codes

	Gla	SS			
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
1	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SQ4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

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

## Syringe Kit LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

#### **Pace Analytical Services Indianapolis**

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313433001	DW-18	Drinking Water	04/07/22 11:35	04/08/22 12:50



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313433001	DW-18	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313433001	DW-18					
EPA 200.8 EPA 200.8	Arsenic Lead	5.4 10.6	ug/L ug/L	1.0 1.0	04/19/22 06:16 04/19/22 06:16	N2 N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

Sample: DW-18	Lab ID: 5	0313433001	Collected: 04/07/	22 11:35	Received: 04	/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
505 GCS PCB-TOX-TCH	Analytical M	ethod: EPA 50	5 Preparation Meth	od: EPA	505			
	Pace Analyt	ical Services -	Ormond Beach					
Chlordane (Technical)	ND	ug/L	0.22	1	04/13/22 03:18	04/13/22 11:15	57-74-9	
PCB-1016 (Aroclor 1016)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	11096-82-5	
PCB, Total	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 11:15	1336-36-3	
oxaphene	ND	ug/L	1.1	1	04/13/22 03:18	04/13/22 11:15	8001-35-2	
200.8 MET ICPMS	•		0.8 Preparation Me	thod: EP	A 200.8			
	Pace Analyt	ical Services -	Indianapolis					
Arsenic	5.4	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:16	7440-38-2	N2
Barium	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:16	7440-39-3	N2
Cadmium	ND	ug/L	0.20	1	04/15/22 02:00	04/19/22 06:16	7440-43-9	N2
Chromium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 06:16	7440-47-3	N2
.ead	10.6	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:16	7439-92-1	N2
Selenium	ND	ug/L	2.0	1	04/15/22 02:00	04/19/22 06:16	7782-49-2	N2
Silver	ND	ug/L	0.50	1	04/15/22 02:00	04/19/22 06:16	7440-22-4	N2
245.1 Mercury	Analytical M	ethod: EPA 24	5.1 Preparation Me	thod: EP	A 245.1			
•	-	ical Services -						
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:30	7439-97-6	
524.2 MSV	Analytical M	ethod: EPA 52	4.2					
,2 II.2 III.0 V	•	ical Services -						
Benzene	ND							
	INI	ua/l	0.50	1		04/13/22 06:06	71-43-2	N2
	ND ND	ug/L ug/l	0.50 0.50	1 1		04/13/22 06:06		N2 N2
Bromobenzene	ND	ug/L	0.50	1		04/13/22 06:06	108-86-1	N2
Bromobenzene Bromodichloromethane	ND ND	ug/L ug/L	0.50 1.0	1 1		04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4	N2 N2
Bromobenzene Bromodichloromethane Bromoform	ND ND ND	ug/L ug/L ug/L	0.50 1.0 1.0	1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2	N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane	ND ND ND ND	ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0	1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9	N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride	ND ND ND ND	ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50	1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5	N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene	ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50	1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7	N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane	ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50	1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3	N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform	ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 0.50	1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3	N2 N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane	ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 0.50 1.0	1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene	ND ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0	1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene	ND ND ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0 0.50	1 1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	ND ND ND ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0 0.50	1 1 1 1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8 106-43-4 124-48-1	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2
Bromobenzene Bromodichloromethane Bromodichloromethane Bromomethane Carbon tetrachloride Chlorobenzene Chlorothane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane	ND ND ND ND ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0 0.50 1.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8 106-43-4 124-48-1 74-95-3	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane Dibromomethane 1,2-Dichlorobenzene	ND ND ND ND ND ND ND ND ND ND ND ND ND N	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0 0.50 1.0 0.50	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8 106-43-4 124-48-1 74-95-3 95-50-1	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N
Bromobenzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	ND ND ND ND ND ND ND ND ND ND ND ND	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.50 1.0 1.0 5.0 0.50 0.50 1.0 1.0 0.50 1.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1		04/13/22 06:06 04/13/22 06:06	108-86-1 75-27-4 75-25-2 74-83-9 56-23-5 108-90-7 75-00-3 67-66-3 74-87-3 95-49-8 106-43-4 124-48-1 74-95-3 95-50-1 541-73-1	N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N2 N

## **REPORT OF LABORATORY ANALYSIS**

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## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

Sample: DW-18	Lab ID: 5031	3433001	Collected: 04/07/2	22 11:35	Received: 0	04/08/22 12:50 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metho	od: EPA 52	24.2					
	Pace Analytical	Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 06:06	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:06	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:06	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:06	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:06	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:06	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 06:06	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 06:06	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 06:06	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 06:06	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 06:06	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 06:06	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/13/22 06:06		N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 06:06	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 06:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 06:06	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/13/22 06:06	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 06:06	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 06:06	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 06:06		N2
Trichloroethene	ND	ug/L	0.50	1		04/13/22 06:06		N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 06:06		N2
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 06:06		N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 06:06		N2
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 06:06		N2
o-Xylene	ND	ug/L	0.50	1		04/13/22 06:06		N2
Surrogates	_	- 3						
4-Bromofluorobenzene (S)	95	%.	70-130	1		04/13/22 06:06	460-00-4	
Dibromofluoromethane (S)	96	%.	70-130	1		04/13/22 06:06	1868-53-7	
Toluene-d8 (S)	107	%.	70-130	1		04/13/22 06:06		



Project:

M20032 Muncie Phase II

Pace Project No.:

50313433

QC Batch:

671366

QC Batch Method:

METHOD BLANK:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313433001

Matrix: Water

Associated Lab Samples:

50313433001

Reporting

Blank Result

Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

111

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3091667

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Mercury

Units ug/L

Conc. 5

5

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

Spike

Conc.

Spike

Conc.

MSD

MS

5.6

3091669

Result

5.2

MSD Result

MS % Rec

103

MSD % Rec

102

111

% Rec Limits

Max RPD

Mercury

ND

50313426001

Result

Spike

5.1

70-130

**RPD** 

20

Qual

MATRIX SPIKE SAMPLE:

Parameter

Parameter

3091670

Units

ug/L

50313435001 Result

5

MS

MS

% Rec

Mercury

Units ug/L

ND

Conc. 5 Result

5.6

% Rec

Qualifiers Limits

70-130

Date: 04/21/2022 10:57 AM

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313433001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313433001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	227		3090228							
	5	0313422001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX S	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3090	-		3090230							
	E.	50313426001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

QC Batch: 670792 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313433001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313433001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313433001

Danasatan	11.26	Blank	Reporting	A b d	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130 N2	_
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130 N2	
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2	
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130 N2	
1,1-Dichloroethane	ug/L	20	19.2	96	70-130 N2	
1,1-Dichloroethene	ug/L	20	22.6	113	70-130 N2	
1,1-Dichloropropene	ug/L	20	22.0	110	70-130 N2	
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130 N2	
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130 N2	
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130 N2	
1,2-Dichloroethane	ug/L	20	19.6	98	70-130 N2	
1,2-Dichloropropane	ug/L	20	20.3	102	70-130 N2	
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130 N2	
1,3-Dichloropropane	ug/L	20	22.3	112	70-130 N2	
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130 N2	
2,2-Dichloropropane	ug/L	20	16.4	82	70-130 N2	
2-Chlorotoluene	ug/L	20	22.2	111	70-130 N2	
4-Chlorotoluene	ug/L	20	23.1	116	70-130 N2	
Benzene	ug/L	20	19.9	100	70-130 N2	
Bromobenzene	ug/L	20	21.1	105	70-130 N2	
Bromodichloromethane	ug/L	20	21.1	105	70-130 N2	
Bromoform	ug/L	20	23.7	118	70-130 N2	
Bromomethane	ug/L	20	15.5	78	70-130 N2	
Carbon tetrachloride	ug/L	20	21.6	108	70-130 N2	
Chlorobenzene	ug/L	20	22.5	113	70-130 N2	
Chloroethane	ug/L	20	18.8	94	70-130 N2	
Chloroform	ug/L	20	18.3	92	70-130 N2	
Chloromethane	ug/L	20	17.3	86	70-130 N2	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130 N2	
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130 N2	
Dibromochloromethane	ug/L	20	22.9	114	70-130 N2	
Dibromomethane	ug/L	20	21.5	107	70-130 N2	

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Project: M20032 Muncie Phase II

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ABORATORY CONTROL SAMPLE:	3088895					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Ethylbenzene	ug/L		22.1	110	70-130	N2
&p-Xylene	ug/L	40	44.8	112	70-130	N2
hyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
hylene Chloride	ug/L	20	18.7	94	70-130	N2
ylene	ug/L	20	22.3	112	70-130	N2
ene	ug/L	20	22.7	113	70-130	N2
achloroethene	ug/L	20	22.0	110	70-130	N2
ene	ug/L	20	21.3	107	70-130	N2
-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
loroethene	ug/L	20	19.8	99	70-130	N2
l chloride	ug/L	20	16.8	84	70-130	N2
ne (Total)	ug/L	60	67.1	112	70-130	N2
omofluorobenzene (S)	%.			95	70-130	
omofluoromethane (S)	%.			98	70-130	
ene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	 ug/L	ND		23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313433

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MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

SAMPLE DUPLICATE: 3088896						
		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313433

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SAMPLE DUPLICATE: 3088896		50040400004	D			
Davasatas	Haita	50313430001	Dup	DDD	Max	O I:f:
Parameter	Units	Result	Result	RPD	RPD 	Qualifiers —
Benzene	ug/L	ND	ND		20	) N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
m&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
Tetrachloroethene	ug/L	ND	ND		20	) N2
Toluene	ug/L	ND	ND		20	) N2
trans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
trans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Trichloroethene	ug/L	ND	ND		20	) N2
Vinyl chloride	ug/L	ND	ND		20	) N2
Xylene (Total)	ug/L	ND	ND		20	) N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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Project: M20032 Muncie Phase II

Pace Project No.: 50313433

QC Batch: 815516

516 Analysis Method:

QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

EPA 505

Associated Lab Samples: 50313433001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313433001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ug/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 10:57 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.71	0.72	101	70-130	_
PCB-1260 (Aroclor 1260)	ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 4478	4478003											
	9.	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max			
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual		
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20			
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

#### **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**

Date: 04/21/2022 10:57 AM

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.



## **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313433

Date: 04/21/2022 10:57 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313433001	DW-18	EPA 505	815516	EPA 505	815530
50313433001	DW-18	EPA 200.8	671085	EPA 200.8	671359
50313433001	DW-18	EPA 245.1	671366	EPA 245.1	671891
50313433001	DW-18	EPA 524.2	670792		

Pace Analytical*		cample via this Conditions	-CUSTOD chain of custody s found at: https: custody is a LEC	constitutes a //info.pacelab	cknowledgmer s.com/hubfs/p	t and acceptar as-standard-te	rms.pdf		s and	N. W. W.		LAB	USE OI	NLY- Af	fix Wo		MAPAGE.		bel Here Numbe	e or List Pace Workorder Number or er Here
Company: Mundell and Associat	es, Inc.		Billing Infor										ALL	BOLE	OU	TLIN	NED	ARE	EAS a	are for LAB USE ONLY
Address: 110 S Downey Ave, Ind	ianapolis, IN 4621	9	110 5 1	Downey Av	e, Indianap	olis, IN 462	19					Co	ntaine	r Prese	rvative	Туре	**			Lab Project Manager:
Report To: Luke Johnstone			Email To: L	johnstone	@mundella	ssociates.c	om			1 ** Pre	3 servati	8 ve Type	o es: (1) r	nitric acid	d, (2) su	lfuric a	cid, (3)	hydro	chloric a	acid, (4) sodium hydroxide, (5) zinc acetate,
Сору То:			Site Collect 4301	ion Info/Ad S Hoyt Av	ddress:	Muncie,	Indiana	1											_DI wa	
Customer Project Name/Number M20032 Muncie Phase II			1 7 7 7 7 7 7 7	ounty/City		e Zone Coll	ected:	Lee.		0				Anal	yses					Lab Profile/Line: Lab Sample Receipt Checklist:
Phone: 317-630-9060	Site/Facility ID	#:	1	- Indiana		e Monitori		N JC!		r Hg)			1		- 1		- 1			Custody Seals Present/Intact Y N NA Custody Signatures Present Y N NA
Email: Ljohnstone@mundellasso	The second secon				[ ] Yes	[ ] No				1 6		TE.	1		- 1	-				Collector Signature Present Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:	er#:			DW PWS I					id 245.1 for				+ /						Bottles Intact Y N NA Correct Bottles Y N NA Sufficient Volume Y N NA
Collected By (signature):	Turnaround D	ate Requir	ed:		Immediat [x] Yes	ely Packed	on Ice:		Glass (G)	EPA 200.8 (and										Samples Received on Ice Y N NA VOA - Headspace Acceptable Y N NA
Sample Disposal:	Rush: (Expedi	ite Charges	Apply)		Field Filte	red (if appli	icable):			1 20			1		- 1		- 1			USDA Regulated Soils Y N NF Samples in Holding Time Y N NF
[ x ] Dispose as appropriate	[ ] Same [	Action to the second	ext Day		[ ] Yes	[x]No			0	EP/	4.2				- 1		- 1			Residual Chlorine Present Y N NA
[ ] Return [ ] Archive:	[ ] 2 Day								0	2	4 524.	(-T)				20	- 1			Cl Strips:
[ ] Hold:	[ ] 4 Day	[ ] 5 Day			Analysis:			_	last	Metals via	EPA	100	537.1		- 1		- 1			pH Strips:
<ul> <li>Matrix Codes (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil/Solid (SL), Oil (Insert in Matrix to Product (P), Soil (P),</li></ul>				ssay (B), V	apor (V), O	ther (OT)	Res	# of	er Type: Plastic (P)	RCRA 8 M	full list via	via EPA 505	via EPA S							Lead Acetate Strips;LAB USE ONLY:
Customer Sample ID	Matrix *	Grab	Composi Date		Date	Time	CI	Ctns	Container	Total F	VOC's	PCB vi	PFAS							Lab Sample # / Comments:
DW-18	DW/GW	Grab	4/7/22	11:35				7	G/P	х	Х	X								(CO SOUTH
															-		-		H	
Customer Remarks / Special Con	ditions / Possible	Hazards:	Type of Ice	Used:	Wet	Blue	Dry	None			SHO	RTHO	DLDS P	RESENT	(<72)	nours)	: Y	N	N/A	LAB Sample Temperature Info:
VOC full list, Total RCRA 8 Me	tals, PCB		Packing Ma	terial Used	d:					200	Lab	Tracki	ing#:	2000		-				Temp Blank Received: Y N N Therm ID#: Cooler 1 Temp Upon Receipt:
All sampled via drinking wate	All sampled via drinking water methods			Radchem sample(s) screened (<500 cpm): Y N NA						Samples received via: Cooler 1 Ther Cooler 1 Corr Cooler 1 Corr Cooler 1 Corr					Cooler 1 Therm Corr. Factor: Cooler 1 Corrected Temp:					
	inguished by/Company: (Signature)		Date/Time: 11/5 Received by/Company: (Signature)							Date/	Time:	اا ح	15	N Table		AB US	E ONLY			
Relinquished by/Company: (Sign	ature)	1.0	e/Time:	1250	Received to	y/Company	y: (Signa	iture)				Date/	Time:	12:	50	Accti	num: plate:			Trip Blank Received: Y N NA HCL MeOH TSP Other

Received by/Company: (Signature)

Prelogin:

PM:

PB:

Date/Time:

Page:

Non Conformance(s):

YES / NO

4/8/22 Date/Time:

Relinquished by/Company: (Signature)

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☑ PAC	E U	SPS [	OTHER5. Packing Materi	al: Bubble Wrap	Bubb	le Bags								
2. Custody Seal on Cooler/Box Present: Yes	No No			□None	☐ Other	r								
(If yes)Seals Intact: 🔲 Yes 🗎 No (leave blank		vere pres	ent)											
3. Thermometer: 123456 ABC () EF			6. Ice Type:	Wet Blue None	Э									
4. Cooler Temperature: 0.4/0.7 0.2/0.0 0.3/0. Temp should be above freezing to 6°C (Initial/Corrected)	T		7. If temp. is over 6	°C or under 0°C, was the PN	1 notified?	: 🗆 Yes	□ No							
All	discrepanci	es will be	written out in the comments section be	low.										
	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)		1	All containers needing acid/base pres. Ha <u>CHECKED</u> ?: exceptions: VOA, coliform, container with a septum cap or preserved	LLHg, O&G, and any										
Short Hold Time Analysis (48 hours or less)? Analysis:		/	Any non-conformance to pH recommendation count form		1									
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pes	t/PCB 608)	Present	Absent	N/A							
Rush TAT Requested (4 days or less):	,	<b>\</b>	Residual Chlorine Check (Total/Amenable	e/Free Cyanide)			1							
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?				/							
Containers Intact?:	1,		Headspace in VOA Vials (>6mm); See Containter Count form for details		Present	Absent	No VOA Vials Se							
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	1		Trip Blank Present?			/								
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:				/							
COMMENTS:														

1

## **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

		Kit																									 that ar	e out of	conform	nance **
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	pead	VG9T	AGOU	AG1H	AG10	AGZU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вьзп	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe		I는	H2SO4	NaOH/ ZNAc pH >9	NaOH
1			3			3													1								WT	-		
2			HI																											
3		1	0 =																								-			
4																														
5			( 1)												-				1										-	
6																														
7					-																									
8																														
9	-								1									-									-			
10																														
11				-																										
12	-									1.0													100			-				

Container Codes

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

Plastic / Misc.  BP4U 125mL unpreserved plastic					
	BP4U	125mL unpreserved plastic			
1		125ml HNO3 plastic			

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

Syring	ige Kit LL Cr+6 sampling kit	
AF	Air Filter	
С	Air Cassettes	
-	27	

R Terracore kit
SP5T 120mL Coliform Na Thiosulfate
U Summa Can
ZPLC Ziploc Bag

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Dear Mr. Johnstone:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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 Ormond Beach

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

Sincerely,

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures



(317)228-3100



#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

**Pace Analytical Services Ormond Beach** 

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

**Pace Analytical Services Indianapolis** 

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050 Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257





## **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313434001	DW-19	Drinking Water	04/07/22 12:05	04/08/22 12:50



## **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313434001	DW-19	EPA 505	JPD	10	PASI-O
		EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis PASI-O = Pace Analytical Services - Ormond Beach



## **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313434001	DW-19					
EPA 200.8	Arsenic	1.1	ug/L	1.0	04/19/22 06:20	N2
EPA 200.8	Barium	229	ug/L	2.0	04/19/22 07:51	N2
EPA 200.8	Lead	32.0	ug/L	1.0	04/19/22 06:20	N2
EPA 200.8	Silver	0.64	ug/L	0.50	04/19/22 06:20	N2



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

Sample: DW-19	Lab ID: 503	13434001	Collected: 04/07/2	22 12:05	Received: 04	/08/22 12:50 N	Matrix: Drinking	g Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua		
05 GCS PCB-TOX-TCH	Analytical Met	hod: EPA 50	05 Preparation Metho	od: EPA	505					
	Pace Analytical Services - Ormond Beach									
Chlordane (Technical)	ND	ug/L	0.22	1	04/13/22 03:18	04/13/22 13:33	57-74-9			
PCB-1016 (Aroclor 1016)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	12674-11-2			
PCB-1221 (Aroclor 1221)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	11104-28-2			
PCB-1232 (Aroclor 1232)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	11141-16-5			
PCB-1242 (Aroclor 1242)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	53469-21-9			
PCB-1248 (Aroclor 1248)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	12672-29-6			
PCB-1254 (Aroclor 1254)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	11097-69-1			
PCB-1260 (Aroclor 1260)	ND	ug/L	0.11	1	04/13/22 03:18	04/13/22 13:33	11096-82-5			
PCB, Total	ND	ug/L	0.11	1		04/13/22 13:33				
oxaphene	ND	ug/L	1.1	1		04/13/22 13:33				
00.8 MET ICPMS	Analytical Met	hod: FPA 20	00.8 Preparation Met	hod: FP	A 200.8					
	Pace Analytica				11200.0					
Arsenic	1.1	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:20	7440-38-2	N2		
Barium	229	ug/L	2.0	2	04/15/22 02:00	04/19/22 07:51	7440-39-3	N2		
Cadmium	ND	ug/L	0.20	1		04/19/22 06:20		N2		
Chromium	ND	ug/L	2.0	1		04/19/22 06:20		N2		
ead	32.0	ug/L	1.0	1		04/19/22 06:20		N2		
Selenium	ND	ug/L	2.0	1		04/19/22 06:20		N2		
Silver	0.64	ug/L	0.50	1		04/19/22 06:20		N2		
245.1 Mercury	Analytical Met	hod: EPA 24	15.1 Preparation Met	hod: EP	A 245.1					
•	Pace Analytica									
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:33	7439-97-6			
524.2 MSV	Analytical Met	hod: EPA 52	24.2							
	Pace Analytica									
Benzene	ND	ug/L	0.50	1		04/13/22 06:32	71-43-2	N2		
Bromobenzene	ND	ug/L	0.50	1		04/13/22 06:32	108-86-1	N2		
Bromodichloromethane	ND	ug/L	1.0	1		04/13/22 06:32	75-27-4	N2		
Bromoform	ND	ug/L	1.0	1		04/13/22 06:32		N2		
Bromomethane	ND	ug/L	5.0	1		04/13/22 06:32		N2		
Carbon tetrachloride	ND	ug/L	0.50	1		04/13/22 06:32		N2		
Chlorobenzene	ND	ug/L	0.50	1		04/13/22 06:32		N2		
Chloroethane	ND	ug/L	0.50	1		04/13/22 06:32		N2		
Chloroform	ND	ug/L	1.0	1		04/13/22 06:32		N2		
Chloromethane	ND	ug/L	1.0	1		04/13/22 06:32		N2		
-Chlorotoluene	ND	ug/L	1.0	1		04/13/22 06:32		N2		
-Chlorotoluene	ND ND	ug/L ug/L	0.50	1		04/13/22 06:32		N2		
Pibromochloromethane	ND ND	•				04/13/22 06:32				
		ug/L	1.0	1				N2		
Dibromomethane	ND	ug/L	0.50	1		04/13/22 06:32		N2		
,2-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 06:32		N2		
,3-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 06:32		N2		
,4-Dichlorobenzene	ND	ug/L	0.50	1		04/13/22 06:32		N2		
,1-Dichloroethane	ND	ug/L	0.50	1		04/13/22 06:32	/5-34-3	N2		



## **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

Sample: DW-19	Lab ID: 503	13434001	Collected: 04/07/2	22 12:05	Received: 0	04/08/22 12:50 N	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
524.2 MSV	Analytical Metl	nod: EPA 52	24.2					
	Pace Analytica	al Services -	Indianapolis					
1,2-Dichloroethane	ND	ug/L	0.50	1		04/13/22 06:32	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:32	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:32	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/13/22 06:32	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:32	78-87-5	N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:32	142-28-9	N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/13/22 06:32	594-20-7	N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/13/22 06:32	563-58-6	N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 06:32	10061-01-5	N2
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/13/22 06:32	10061-02-6	N2
Ethylbenzene	ND	ug/L	0.50	1		04/13/22 06:32	100-41-4	N2
Methylene Chloride	ND	ug/L	2.5	1		04/13/22 06:32	75-09-2	N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/13/22 06:32	1634-04-4	N2
Styrene	ND	ug/L	0.50	1		04/13/22 06:32	100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/13/22 06:32	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/13/22 06:32	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/13/22 06:32	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/13/22 06:32	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/13/22 06:32	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/13/22 06:32	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/13/22 06:32	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/13/22 06:32	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/13/22 06:32	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/13/22 06:32	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 06:32	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/13/22 06:32	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/13/22 06:32	95-47-6	N2
Surrogates		-						
4-Bromofluorobenzene (S)	96	%.	70-130	1		04/13/22 06:32	460-00-4	
Dibromofluoromethane (S)	94	%.	70-130	1		04/13/22 06:32	1868-53-7	
Toluene-d8 (S)	106	%.	70-130	1		04/13/22 06:32	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313434

QC Batch:

671366

QC Batch Method:

EPA 245.1

Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50313434001

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

50313434001

Blank Result

Reporting Limit

Analyzed

Qualifiers

Mercury

Units ug/L

ND

0.20 04/19/22 16:54

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3091667

Spike

LCS Result

LCS % Rec % Rec Limits

MS

% Rec

Qualifiers

Mercury

Units ug/L

50313426001

Result

ug/L

Conc.

5

5.6

3091669

111

85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668

MSD

Conc.

ND

MS Spike Spike

MS Result

MSD Result

MSD % Rec

% Rec Limits

Max **RPD** RPD

20

Qual

Conc. ND 5 103 Mercury ug/L 5 5.2 5.1 102

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:57 AM

Mercury

Parameter

3091670

50313435001

Spike

MS

MS

111

% Rec

70-130

Qualifiers

Parameter Units Result

Units

Conc. 5

Result 5.6 % Rec

Limits 70-130

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313434001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313434001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX S	SPIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SI	PIKE DUPLIC	CATE: 3090	229		3090230							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

QC Batch: 670792 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313434001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313434001

		Blank Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/13/22 03:31	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/13/22 03:31	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/13/22 03:31	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/13/22 03:31	N2
2-Chlorotoluene	ug/L	ND	1.0	04/13/22 03:31	N2
4-Chlorotoluene	ug/L	ND	0.50	04/13/22 03:31	N2
Benzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Bromodichloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Bromoform	ug/L	ND	1.0	04/13/22 03:31	N2
Bromomethane	ug/L	ND	5.0	04/13/22 03:31	N2
Carbon tetrachloride	ug/L	ND	0.50	04/13/22 03:31	N2
Chlorobenzene	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroethane	ug/L	ND	0.50	04/13/22 03:31	N2
Chloroform	ug/L	ND	1.0	04/13/22 03:31	N2
Chloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Dibromochloromethane	ug/L	ND	1.0	04/13/22 03:31	N2
Dibromomethane	ug/L	ND	0.50	04/13/22 03:31	N2
Ethylbenzene	ug/L	ND	0.50	04/13/22 03:31	N2
m&p-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/13/22 03:31	N2
Methylene Chloride	ug/L	ND	2.5	04/13/22 03:31	N2
o-Xylene	ug/L	ND	0.50	04/13/22 03:31	N2
Styrene	ug/L	ND	0.50	04/13/22 03:31	N2
Tetrachloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Toluene	ug/L	ND	1.0	04/13/22 03:31	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313434001

Danasatan	11.26	Blank	Reporting	A b d	0
Parameter	Units	Result	Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/13/22 03:31	N2
Trichloroethene	ug/L	ND	0.50	04/13/22 03:31	N2
Vinyl chloride	ug/L	ND	0.50	04/13/22 03:31	N2
Xylene (Total)	ug/L	ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895				
		Spike	LCS	LCS	% Rec
Parameter	Units	Conc.	Result	% Rec	Limits Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	23.8	119	70-130 N2
1,1,1-Trichloroethane	ug/L	20	20.2	101	70-130 N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130 N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	70-130 N2
1,1-Dichloroethane	ug/L	20	19.2	96	70-130 N2
1,1-Dichloroethene	ug/L	20	22.6	113	70-130 N2
1,1-Dichloropropene	ug/L	20	22.0	110	70-130 N2
1,2,3-Trichloropropane	ug/L	20	22.9	115	70-130 N2
1,2,4-Trichlorobenzene	ug/L	20	23.7	119	70-130 N2
1,2-Dichlorobenzene	ug/L	20	23.1	115	70-130 N2
1,2-Dichloroethane	ug/L	20	19.6	98	70-130 N2
1,2-Dichloropropane	ug/L	20	20.3	102	70-130 N2
1,3-Dichlorobenzene	ug/L	20	22.5	112	70-130 N2
1,3-Dichloropropane	ug/L	20	22.3	112	70-130 N2
1,4-Dichlorobenzene	ug/L	20	22.0	110	70-130 N2
2,2-Dichloropropane	ug/L	20	16.4	82	70-130 N2
2-Chlorotoluene	ug/L	20	22.2	111	70-130 N2
4-Chlorotoluene	ug/L	20	23.1	116	70-130 N2
Benzene	ug/L	20	19.9	100	70-130 N2
Bromobenzene	ug/L	20	21.1	105	70-130 N2
Bromodichloromethane	ug/L	20	21.1	105	70-130 N2
Bromoform	ug/L	20	23.7	118	70-130 N2
Bromomethane	ug/L	20	15.5	78	70-130 N2
Carbon tetrachloride	ug/L	20	21.6	108	70-130 N2
Chlorobenzene	ug/L	20	22.5	113	70-130 N2
Chloroethane	ug/L	20	18.8	94	70-130 N2
Chloroform	ug/L	20	18.3	92	70-130 N2
Chloromethane	ug/L	20	17.3	86	70-130 N2
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-130 N2
cis-1,3-Dichloropropene	ug/L	20	21.8	109	70-130 N2
Dibromochloromethane	ug/L	20	22.9	114	70-130 N2
Dibromomethane	ug/L	20	21.5	107	70-130 N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

ABORATORY CONTROL SAMPLE:		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
thylbenzene	ug/L		22.1	110	70-130	N2
&p-Xylene	ug/L	40	44.8	112	70-130	N2
ethyl-tert-butyl ether	ug/L	20	19.8	99	70-130	N2
ethylene Chloride	ug/L	20	18.7	94	70-130	N2
Xylene	ug/L	20	22.3	112	70-130	N2
yrene	ug/L	20	22.7	113	70-130	N2
rachloroethene	ug/L	20	22.0	110	70-130	N2
uene	ug/L	20	21.3	107	70-130	N2
ns-1,2-Dichloroethene	ug/L	20	19.7	99	70-130	N2
ns-1,3-Dichloropropene	ug/L	20	21.6	108	70-130	N2
chloroethene	ug/L	20	19.8	99	70-130	N2
yl chloride	ug/L	20	16.8	84	70-130	N2
ene (Total)	ug/L	60	67.1	112	70-130	N2
Bromofluorobenzene (S)	%.			95	70-130	
romofluoromethane (S)	%.			98	70-130	
luene-d8 (S)	%.			102	70-130	

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.4	117	70-130	N2
1,1,1-Trichloroethane	ug/L	ND	20	21.0	105	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.5	112	70-130	N2
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	70-130	N2
1,1-Dichloroethane	ug/L	ND	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	ND	20	21.9	110	70-130	N2
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	N2
1,2,3-Trichloropropane	ug/L	ND	20	21.7	109	70-130	N2
1,2,4-Trichlorobenzene	ug/L	ND	20	22.9	115	70-130	N2
1,2-Dichlorobenzene	ug/L	ND	20	22.8	114	70-130	N2
1,2-Dichloroethane	ug/L	ND	20	18.7	94	70-130	N2
1,2-Dichloropropane	ug/L	ND	20	20.5	103	70-130	N2
1,3-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	N2
1,3-Dichloropropane	ug/L	ND	20	22.0	110	70-130	N2
1,4-Dichlorobenzene	ug/L	ND	20	21.6	108	70-130	N2
2,2-Dichloropropane	ug/L	ND	20	16.4	82	70-130	N2
2-Chlorotoluene	ug/L	ND	20	22.3	111	70-130	N2
4-Chlorotoluene	ug/L	ND	20	22.7	113	70-130	N2
Benzene	ug/L	ND	20	20.2	101	70-130	N2
Bromobenzene	ug/L	ND	20	20.7	103	70-130	N2
Bromodichloromethane	ug/L	ND	20	20.5	103	70-130	N2
Bromoform	ug/L	ND	20	23.1	115	70-130	N2
Bromomethane	ug/L	ND	20	16.0	80	70-130	N2
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	N2
Chlorobenzene	ug/L	ND	20	22.0	110	70-130	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

MATRIX SPIKE SAMPLE:	3088897						
		50313431001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L	ND	20	20.0	100	70-130	N2
Chloroform	ug/L	ND	20	17.8	89	70-130	N2
Chloromethane	ug/L	ND	20	17.8	89	70-130	N2
cis-1,2-Dichloroethene	ug/L	ND	20	20.5	103	70-130	N2
cis-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	N2
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	N2
Dibromomethane	ug/L	ND	20	20.3	102	70-130	N2
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	N2
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	N2
Methyl-tert-butyl ether	ug/L	ND	20	19.1	96	70-130	N2
Methylene Chloride	ug/L	ND	20	17.3	87	70-130	N2
o-Xylene	ug/L	ND	20	22.1	111	70-130	N2
Styrene	ug/L	ND	20	21.6	108	70-130	N2
Tetrachloroethene	ug/L	ND	20	22.2	111	70-130	N2
Toluene	ug/L	ND	20	21.0	105	70-130	N2
trans-1,2-Dichloroethene	ug/L	ND	20	20.3	102	70-130	N2
trans-1,3-Dichloropropene	ug/L	ND	20	20.3	101	70-130	N2
Trichloroethene	ug/L	ND	20	20.3	102	70-130	N2
Vinyl chloride	ug/L	ND	20	18.0	90	70-130	N2
Xylene (Total)	ug/L	ND	60	67.0	112	70-130	N2
4-Bromofluorobenzene (S)	%.				96	70-130	
Dibromofluoromethane (S)	%.				96	70-130	
Toluene-d8 (S)	%.				102	70-130	

SAMPLE DUPLICATE: 3088896						
		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND ND	ND		20	N2
1,1,1-Trichloroethane	ug/L	ND	ND		20	) N2
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	) N2
1,1,2-Trichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethane	ug/L	ND	ND		20	) N2
1,1-Dichloroethene	ug/L	ND	ND		20	) N2
1,1-Dichloropropene	ug/L	ND	ND		20	) N2
1,2,3-Trichloropropane	ug/L	ND	ND		20	) N2
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,2-Dichloroethane	ug/L	ND	ND		20	) N2
1,2-Dichloropropane	ug/L	ND	ND		20	) N2
1,3-Dichlorobenzene	ug/L	ND	ND		20	) N2
1,3-Dichloropropane	ug/L	ND	ND		20	) N2
1,4-Dichlorobenzene	ug/L	ND	ND		20	) N2
2,2-Dichloropropane	ug/L	ND	ND		20	) N2
2-Chlorotoluene	ug/L	ND	ND		20	) N2
4-Chlorotoluene	ug/L	ND	ND		20	) N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

SAMPLE DUPLICATE: 3088896		50040400004	D			
Davasatas	Haita	50313430001	Dup	DDD	Max	O I:f:
Parameter	Units	Result	Result	RPD	RPD 	Qualifiers —
Benzene	ug/L	ND	ND		20	) N2
Bromobenzene	ug/L	ND	ND		20	) N2
Bromodichloromethane	ug/L	ND	ND		20	) N2
Bromoform	ug/L	ND	ND		20	) N2
Bromomethane	ug/L	ND	ND		20	) N2
Carbon tetrachloride	ug/L	ND	ND		20	) N2
Chlorobenzene	ug/L	ND	ND		20	) N2
Chloroethane	ug/L	ND	ND		20	) N2
Chloroform	ug/L	ND	ND		20	) N2
Chloromethane	ug/L	ND	ND		20	) N2
cis-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
cis-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Dibromochloromethane	ug/L	ND	ND		20	) N2
Dibromomethane	ug/L	ND	ND		20	) N2
Ethylbenzene	ug/L	ND	ND		20	) N2
m&p-Xylene	ug/L	ND	ND		20	) N2
Methyl-tert-butyl ether	ug/L	ND	ND		20	) N2
Methylene Chloride	ug/L	ND	ND		20	) N2
o-Xylene	ug/L	ND	ND		20	) N2
Styrene	ug/L	ND	ND		20	) N2
Tetrachloroethene	ug/L	ND	ND		20	) N2
Toluene	ug/L	ND	ND		20	) N2
trans-1,2-Dichloroethene	ug/L	ND	ND		20	) N2
trans-1,3-Dichloropropene	ug/L	ND	ND		20	) N2
Trichloroethene	ug/L	ND	ND		20	) N2
Vinyl chloride	ug/L	ND	ND		20	) N2
Xylene (Total)	ug/L	ND	ND		20	) N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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.



EPA 505

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

QC Batch: 815516

Analysis Method: QC Batch Method: EPA 505 Analysis Description: 505 GCS PCB-TOX-TCH

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 50313434001

METHOD BLANK: 4477979 Matrix: Water

Associated Lab Samples: 50313434001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chlordane (Technical)	ug/L	ND ND	0.20	04/13/22 08:41	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	04/13/22 08:41	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	04/13/22 08:41	
Toxaphene	ua/L	ND	1.0	04/13/22 08:41	

LABORATORY CONTROL SAMPLE: 4477980

Date: 04/21/2022 10:57 AM

Parameter Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016) ug/L	0.71	0.72	101	70-130	
PCB-1260 (Aroclor 1260) ug/L	0.72	0.79	110	70-130	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	ICATE: 4478	000		4478001							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.76	0.75	0.87	0.78	114	104	70-130	10	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.76	0.75	0.77	0.70	101	93	70-130	10	20	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 4478	002		4478003							
	9.	2597558001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	ND	0.79	0.78	0.83	0.81	104	104	70-130	2	20	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.79	0.78	0.76	0.81	96	104	70-130	7	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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

#### **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**

Date: 04/21/2022 10:57 AM

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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313434

Date: 04/21/2022 10:57 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313434001	DW-19	EPA 505	815516	EPA 505	815530
50313434001	DW-19	EPA 200.8	671085	EPA 200.8	671359
50313434001	DW-19	EPA 245.1	671366	EPA 245.1	671891
50313434001	DW-19	EPA 524.2	670792		

#### LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or CHAIN-OF-CUSTODY Analytical Request Document MTJL Log-in Number Here Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Billing Information: Company: Mundell and Associates, Inc. ALL BOLD OUTLINED AREAS are for LAB USE ONLY 110 S Downey Ave, Indianapolis, IN 46219 Address: 110 S Downey Ave, Indianapolis, IN 46219 Container Preservative Type \*\* Lab Project Manager: 1 3 Report To: Luke Johnstone Email To: Ljohnstone@mundellassociates.com \*\* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, Copy To: Site Collection Info/Address: (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other \_\_DI water 4201 S Hoyt Ave Muncie, Indiana Analyses Lab Profile/Line: Customer Project Name/Number: State: County/City: Time Zone Collected: Lab Sample Receipt Checklist: M20032 Muncie Phase II Muncie [ ]PT [ ]MT [ ]CT [X]ET Hg) Custody Seals Present/Intact Y N NA Phone: 317-630-9060 Site/Facility ID #: Compliance Monitoring? Custody Signatures Present Y N NA for Collector Signature Present Y N NA Email: Ljohnstone@mundellassociates.com [ ] Yes [ ] No 245.1 Bottles Intact DW PWS ID #: Collected By (print): Purchase Order #: Correct Bottles Luke Johnstone Quote #: DW Location Code: Sufficient Volume RCRA 8 Metals via EPA 200.8 (and Samples Received on Ice Collected By (signature); Turnaround Date Required: Immediately Packed on Ice: Glass VOA - Headspace Acceptable [x] Yes [ ] No USDA Regulated Soils Sample Disposal: Rush: (Expedite Charges Apply) Field Filtered (if applicable): Samples in Holding Time 0 [x] Dispose as appropriate [ ] Same Day [ ] Next Day [ ] Yes [x]No Residual Chlorine Present Plastic (P) [ ] Return Cl Strips: [ ]2 Day [ ]3 Day [ ] Archive: Sample pH Acceptable [ ]4 Day [ ]5 Day Analysis: pH Strips: ] Hold: 537 list via Sulfide Present Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Container Type: Lead Acetate Strips: EPA Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT) VOC's full 20 LAB USE ONLY: Comp / Collected (or # of Composite End Lab Sample # / Comments: Total Customer Sample ID Matrix \* Composite Start) CI Ctns Grab PCB Date Time see scur Date Time DW-19 4/7/24 12:05 G/P X DW/GW X X Customer Remarks / Special Conditions / Possible Hazards: SHORT HOLDS PRESENT (<72 hours): Y N N/A LAB Sample Temperature Info: Type of Ice Used: Wet Blue Dry None Temp Blank Received: Y N VOC full list, Total RCRA 8 Metals, PCB Packing Material Used: Lab Tracking #: Therm ID#: Cooler 1 Temp Upon Receipt: oC All sampled via drinking water methods Samples received via: Cooler 1 Therm Corr. Factor: Radchem sample(s) screened (<500 cpm): Y N NA Cooler 1 Corrected Temp: FEDEX UPS Client Courier Pace Courier Comments: Relinquished by/Company: (Signature) MTJL LAB USE ONLY Date/Time:

Received by/Company (Signature)

Received by/Company: (Signature)

4-4

Date/Time:

Date/Time:

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Page 19 of 2

Page:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s):

YES / NO

Table #:

Acctnum:

Prelogin:

PM:

PB:

Template:

Date/Time:

Date/Time:

Y N NA

Y N NA

Y N NA

Y N NA

Y N NA

Y N NA

Y N NA

Y N NA

Y N NA

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

Pace Analytical\*

# SAMPLE CONDITION UPON RECEIPT FORM

1. Courier:  FED EX UPS CLIENT VPAC  2. Custody Seal on Cooler/Box Present: Yes	No		5. Packing Material: Bubble V				
(If yes)Seals Intact: Yes No (leave blank  3. Thermometer: 123456 ABC © EF  4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/0  Temp should be above freezing to 6°C (Initial/Corrected)		vere pres	6. Ice Type: Wet Blue 17. If temp. is over 6°C or under 0°C, wa		?: □ Yes	. □ No	
All			written out in the comments section below.		-		
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCI.	Yes	No	N/A	
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:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Presen	Absent	N/A	
Rush TAT Requested (4 days or less):	-	<b>√</b>	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1	
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/	
Containers Intact?:	1		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sen	
Sample Label (IDs/Dates/Times) Match COC?:  Except TCs, which only require sample ID	1		rip Blank Present?		/		
Extra labels on Terracore Vials? (soils only)			rip Blank Custody Seals?:				
COMMENTS:							

COC PAGE	1 of
OOO I NOL	

# **Sample Container Count**

SBS DI MeOH (only) BK

\*\* Place a RED dot on containers

that are out of conformance	•
-----------------------------	---

		NIL		_									1000													0.00	mate	are out of	Comorn	larice
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	NG9V	<b>1</b> 650	VG9T	AGOU	AG1H	AG10	AGSU	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	сезн	Syringe Kit		Matrix	HNO3/ H2SO4 pH <2	NaOH/ ZNAc pH >9	NaOH pH>10
1			3			3			Ħ.										1								W7	1		
2																														
3									-															1						
4			1 17																				1						0.1	
5			HI					1-5																						
6																														
7						23																								
8																														
9																														
10		-									-					, 13,											1			
11																											1			
12								( 5		=																F 1		11.		

#### Container Codes

	Gla	SS			
DG9H	40mL HCI 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
/G9T	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	Boz 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
IGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

# Plastic / Misc.

BP4	125mL unpreserved plastic						
BP4	125mL HNO3 plastic						
BP4	125mL H2SO4 plastic						

Syringe Kit LL Cr+6 sampling kit

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

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





April 21, 2022

Mr. Luke Johnstone Mundell 110 S. Downey Ave Indianapolis, IN 46219

RE: Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Dear Mr. Johnstone:

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

Olivia Deck olivia.deck@pacelabs.com (317)228-3102 Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177 Kentucky UST Agency Interest #: 80226 Kentucky WW Laboratory ID #: 98019 Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204 Texas Certification #: T104704355 Wisconsin Laboratory #: 999788130 USDA Soil Permit #: P330-19-00257



#### **SAMPLE SUMMARY**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50313435001	DW-20	Drinking Water	04/07/22 12:32	04/08/22 12:50
50313435002		<b>Drinking Water</b>	04/07/22 12:32	04/08/22 12:50
50313435003		<b>Drinking Water</b>	04/07/22 08:00	04/08/22 12:50



#### **SAMPLE ANALYTE COUNT**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50313435001	DW-20	EPA 200.8	DMT	7	PASI-I
		EPA 245.1	EAE	1	PASI-I
		EPA 524.2	BES	48	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



#### **SUMMARY OF DETECTION**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50313435001	DW-20					
EPA 200.8	Barium	93.8	ug/L	1.0	04/19/22 06:24	N2
EPA 524.2	Bromodichloromethane	8.2	ug/L	1.0	04/14/22 18:08	N2
EPA 524.2	Chloroform	11.5	ug/L	1.0	04/14/22 18:08	N2
EPA 524.2	Dibromochloromethane	3.7	ug/L	1.0	04/14/22 18:08	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

Sample: DW-20	Lab ID: 50	313435001	Collected: 04/07/2	22 12:32	Received: 04	/08/22 12:50 I	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
200.8 MET ICPMS	Analytical Me	thod: EPA 20	00.8 Preparation Me	thod: EP	A 200.8			
	Pace Analytic	al Services	- Indianapolis					
Arsenic	ND	ug/L	1.0	1	04/15/22 02:00	04/19/22 06:24	7440-38-2	N2
Barium	93.8	ug/L	1.0	1		04/19/22 06:24		N2
Cadmium	ND	ug/L	0.20	1		04/19/22 06:24		N2
Chromium	ND	ug/L	2.0	1		04/19/22 06:24		N2
Lead	ND	ug/L	1.0	1		04/19/22 06:24		N2
Selenium	ND	ug/L	2.0	1		04/19/22 06:24		N2
Silver	ND	ug/L	0.50	1		04/19/22 06:24		N2
245.1 Mercury	Analytical Me	thod: EPA 2	45.1 Preparation Me	thod: EP	A 245.1			
	Pace Analytic	al Services	- Indianapolis					
Mercury	ND	ug/L	0.20	1	04/19/22 09:33	04/19/22 18:35	7439-97-6	
524.2 MSV	Analytical Me	thod: EPA 5	24.2					
	Pace Analytic	al Services	- Indianapolis					
Benzene	ND	ug/L	0.50	1		04/14/22 18:08	71-43-2	N2
Bromobenzene	ND	ug/L	0.50	1		04/14/22 18:08		N2
Bromodichloromethane	8.2	ug/L	1.0	1		04/14/22 18:08	75-27-4	N2
Bromoform	ND	ug/L	1.0	1		04/14/22 18:08	75-25-2	L1,N2
Bromomethane	ND	ug/L	5.0	1		04/14/22 18:08	74-83-9	L1,N2
Carbon tetrachloride	ND	ug/L	0.50	1		04/14/22 18:08	56-23-5	N2
Chlorobenzene	ND	ug/L	0.50	1		04/14/22 18:08	108-90-7	N2
Chloroethane	ND	ug/L	0.50	1		04/14/22 18:08	75-00-3	N2
Chloroform	11.5	ug/L	1.0	1		04/14/22 18:08	67-66-3	N2
Chloromethane	ND	ug/L	1.0	1		04/14/22 18:08	74-87-3	N2
2-Chlorotoluene	ND	ug/L	1.0	1		04/14/22 18:08	95-49-8	N2
4-Chlorotoluene	ND	ug/L	0.50	1		04/14/22 18:08	106-43-4	N2
Dibromochloromethane	3.7	ug/L	1.0	1		04/14/22 18:08	124-48-1	N2
Dibromomethane	ND	ug/L	0.50	1		04/14/22 18:08	74-95-3	N2
1,2-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:08	95-50-1	N2
,3-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:08	541-73-1	N2
1,4-Dichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:08	106-46-7	N2
1,1-Dichloroethane	ND	ug/L	0.50	1		04/14/22 18:08	75-34-3	N2
1,2-Dichloroethane	ND	ug/L	0.50	1		04/14/22 18:08	107-06-2	N2
1,1-Dichloroethene	ND	ug/L	0.50	1		04/14/22 18:08	75-35-4	N2
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		04/14/22 18:08	156-59-2	N2
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		04/14/22 18:08	156-60-5	N2
1,2-Dichloropropane	ND	ug/L	0.50	1		04/14/22 18:08		N2
1,3-Dichloropropane	ND	ug/L	0.50	1		04/14/22 18:08		N2
2,2-Dichloropropane	ND	ug/L	0.50	1		04/14/22 18:08		N2
1,1-Dichloropropene	ND	ug/L	1.0	1		04/14/22 18:08		N2
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		04/14/22 18:08		N2
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		04/14/22 18:08		N2
Ethylbenzene	ND	ug/L	0.50	1		04/14/22 18:08		N2
Methylene Chloride	ND	ug/L	2.5	1		04/14/22 18:08		N2
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/14/22 18:08	1634-04-4	N2



#### **ANALYTICAL RESULTS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

Sample: DW-20	Lab ID: 50	313435001	Collected: 04/07/2	ected: 04/07/22 12:32		04/08/22 12:50 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Me	ethod: EPA 52	24.2					
	Pace Analytic	cal Services -	Indianapolis					
Styrene	ND	ug/L	0.50	1		04/14/22 18:08	3 100-42-5	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		04/14/22 18:08	630-20-6	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/14/22 18:08	79-34-5	N2
Tetrachloroethene	ND	ug/L	0.50	1		04/14/22 18:08	127-18-4	N2
Toluene	ND	ug/L	1.0	1		04/14/22 18:08	108-88-3	N2
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1		04/14/22 18:08	120-82-1	N2
1,1,1-Trichloroethane	ND	ug/L	0.50	1		04/14/22 18:08	71-55-6	N2
1,1,2-Trichloroethane	ND	ug/L	0.50	1		04/14/22 18:08	79-00-5	N2
Trichloroethene	ND	ug/L	0.50	1		04/14/22 18:08	79-01-6	N2
1,2,3-Trichloropropane	ND	ug/L	2.0	1		04/14/22 18:08	96-18-4	N2
Vinyl chloride	ND	ug/L	0.50	1		04/14/22 18:08	75-01-4	N2
Xylene (Total)	ND	ug/L	0.50	1		04/13/22 06:58	1330-20-7	N2
m&p-Xylene	ND	ug/L	0.50	1		04/14/22 18:08	179601-23-1	N2
o-Xylene	ND	ug/L	0.50	1		04/14/22 18:08	95-47-6	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%.	70-130	1		04/14/22 18:08	3 460-00-4	
Dibromofluoromethane (S)	95	%.	70-130	1		04/14/22 18:08	1868-53-7	
Toluene-d8 (S)	103	%.	70-130	1		04/14/22 18:08	2037-26-5	



Project:

M20032 Muncie Phase II

Pace Project No.:

50313435

QC Batch:

METHOD BLANK:

671366

QC Batch Method: EPA 245.1 Analysis Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Matrix: Water

Associated Lab Samples:

50313435001

50313435001

Parameter

Blank Units Result Reporting Limit Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 04/19/22 16:54

111

LABORATORY CONTROL SAMPLE:

Parameter

3091667

Spike

LCS

LCS % Rec % Rec Limits

Mercury

Units ug/L

Result

Conc. 5 Result

5

85-115

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3091668 MS

Conc.

5

Conc.

50313426001 Spike

ND

MSD Spike

MS Result

3091669

5.2

5.6

MSD Result

MS % Rec

103

MSD % Rec

102

% Rec **RPD** Limits

Max RPD

20

Qual

MATRIX SPIKE SAMPLE:

Date: 04/21/2022 10:55 AM

Parameter

3091670

Units

ug/L

Parameter

ug/L

50313435001

ND

Spike

MS

5.1

MS

70-130

% Rec

Mercury

Mercury

Units

Result

Conc. 5

Result 5.6 % Rec 111 Limits 70-130

Qualifiers

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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

QC Batch: 671085 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313435001

METHOD BLANK: 3090225 Matrix: Water

Associated Lab Samples: 50313435001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	04/19/22 04:08	N2
Barium	ug/L	ND	1.0	04/19/22 04:08	N2
Cadmium	ug/L	ND	0.20	04/19/22 04:08	N2
Chromium	ug/L	ND	2.0	04/19/22 04:08	N2
Lead	ug/L	ND	1.0	04/19/22 04:08	N2
Selenium	ug/L	ND	2.0	04/19/22 04:08	N2
Silver	ug/L	ND	0.50	04/19/22 04:08	N2

LABORATORY CONTROL SAMPLE:	3090226					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	N2
Barium	ug/L	40	38.7	97	85-115	N2
Cadmium	ug/L	40	38.9	97	85-115	N2
Chromium	ug/L	40	41.8	105	85-115	N2
Lead	ug/L	40	41.0	103	85-115	N2
Selenium	ug/L	40	39.1	98	85-115	N2
Silver	ug/L	40	40.9	102	85-115	N2

MATRIX SPIKE & MATRIX SP	PIKE DUPLI	CATE: 3090	227		3090228							
			MS	MSD								
		50313422001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	41.3	41.5	101	102	70-130	1	20	N2
Barium	ug/L	9.3	40	40	47.2	47.7	95	96	70-130	1	20	N2
Cadmium	ug/L	ND	40	40	38.0	38.0	95	95	70-130	0	20	N2
Chromium	ug/L	ND	40	40	38.8	39.0	95	96	70-130	0	20	N2
Lead	ug/L	1.8	40	40	42.6	42.6	102	102	70-130	0	20	N2
Selenium	ug/L	ND	40	40	39.3	39.9	94	96	70-130	1	20	N2
Silver	ug/L	ND	40	40	38.5	38.8	96	97	70-130	1	20	N2

MATRIX SPIKE & MATRIX SI	PIKE DUPLIC	ATE: 3090	229		3090230	1						
			MS	MSD								
	50	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	ug/L	ND	40	40	39.9	39.5	99	98	70-130	1	20	N2

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



Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3090	229 MS	MSD	3090230							
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	532	40	40	586	592	136	150	70-130	1	20	N2,P6
Cadmium	ug/L	ND	40	40	38.4	38.2	96	95	70-130	1	20	N2
Chromium	ug/L	ND	40	40	39.9	39.5	98	98	70-130	1	20	N2
Lead	ug/L	ND	40	40	42.2	41.8	103	102	70-130	1	20	N2
Selenium	ug/L	ND	40	40	39.1	39.2	96	96	70-130	0	20	N2
Silver	ug/L	ND	40	40	39.7	39.5	99	99	70-130	1	20	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313435

QC Batch: 670792 QC Batch Method: EPA 524.2 Analysis Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313435001

METHOD BLANK: 3088894 Matrix: Water

Associated Lab Samples: 50313435001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Xylene (Total)	ug/L	ND ND	0.50	04/13/22 03:31	N2
4-Bromofluorobenzene (S)	%.	95	70-130	04/13/22 03:31	
Dibromofluoromethane (S)	%.	95	70-130	04/13/22 03:31	
Toluene-d8 (S)	%.	105	70-130	04/13/22 03:31	

LABORATORY CONTROL SAMPLE:	3088895	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Xylene (Total)	ug/L	60	67.1	112	70-130	N2
4-Bromofluorobenzene (S)	%.			95	70-130	
Dibromofluoromethane (S)	%.			98	70-130	
Toluene-d8 (S)	%.			102	70-130	

3088897						
Haita	50313431001	Spike	MS	MS % Date	% Rec	O a lifi a ma
Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
ug/L	ND	60	67.0	112	70-130	N2
%.				96	70-130	
%.				96	70-130	
%.				102	70-130	
	Units ug/L %. %.	Units 50313431001 Result ND %. %.	Units 50313431001 Spike Conc.  ug/L ND 60 %. %.	Units	Units 50313431001 Spike MS MS MS Result Conc. Result % Rec  ug/L ND 60 67.0 112 %. 96 %. 96	Units         50313431001 Result         Spike Conc.         MS Result         MS Rec Limits           ug/L         ND         60         67.0         112         70-130           %.         96         70-130           %.         96         70-130

SAMPLE DUPLICATE: 3088896

Date: 04/21/2022 10:55 AM

		50313430001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Xylene (Total)	ug/L	ND	ND		2	0 N2
4-Bromofluorobenzene (S)	%.	95	94			
Dibromofluoromethane (S)	%.	96	96			
Toluene-d8 (S)	%.	106	105			

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Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

QC Batch: 671276 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50313435001

METHOD BLANK: 3091257 Matrix: Water

Associated Lab Samples: 50313435001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
1,1,1-Trichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/14/22 17:43	N2
1,1,2-Trichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
1,1-Dichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
1,1-Dichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
1,1-Dichloropropene	ug/L	ND	1.0	04/14/22 17:43	N2
1,2,3-Trichloropropane	ug/L	ND	2.0	04/14/22 17:43	N2
1,2,4-Trichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
1,2-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
1,2-Dichloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
1,2-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2
1,3-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
1,3-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2
1,4-Dichlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
2,2-Dichloropropane	ug/L	ND	0.50	04/14/22 17:43	N2
2-Chlorotoluene	ug/L	ND	1.0	04/14/22 17:43	N2
4-Chlorotoluene	ug/L	ND	0.50	04/14/22 17:43	N2
Benzene	ug/L	ND	0.50	04/14/22 17:43	N2
Bromobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
Bromodichloromethane	ug/L	ND	1.0	04/14/22 17:43	N2
Bromoform	ug/L	ND	1.0	04/14/22 17:43	N2
Bromomethane	ug/L	ND	5.0	04/14/22 17:43	N2
Carbon tetrachloride	ug/L	ND	0.50	04/14/22 17:43	N2
Chlorobenzene	ug/L	ND	0.50	04/14/22 17:43	N2
Chloroethane	ug/L	ND	0.50	04/14/22 17:43	N2
Chloroform	ug/L	ND	1.0	04/14/22 17:43	N2
Chloromethane	ug/L	ND	1.0	04/14/22 17:43	N2
cis-1,2-Dichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
cis-1,3-Dichloropropene	ug/L	ND	0.50	04/14/22 17:43	N2
Dibromochloromethane	ug/L	ND	1.0	04/14/22 17:43	N2
Dibromomethane	ug/L	ND	0.50	04/14/22 17:43	N2
Ethylbenzene	ug/L	ND	0.50	04/14/22 17:43	N2
m&p-Xylene	ug/L	ND	0.50	04/14/22 17:43	N2
Methyl-tert-butyl ether	ug/L	ND	1.0	04/14/22 17:43	N2
Methylene Chloride	ug/L	ND	2.5	04/14/22 17:43	N2
o-Xylene	ug/L	ND	0.50	04/14/22 17:43	N2
Styrene	ug/L	ND	0.50	04/14/22 17:43	N2
Tetrachloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
Toluene	ug/L	ND	1.0	04/14/22 17:43	N2

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Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

METHOD BLANK: 3091257 Matrix: Water

Associated Lab Samples: 50313435001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND ND	0.50	04/14/22 17:43	N2
trans-1,3-Dichloropropene	ug/L	ND	0.50	04/14/22 17:43	N2
Trichloroethene	ug/L	ND	0.50	04/14/22 17:43	N2
Vinyl chloride	ug/L	ND	0.50	04/14/22 17:43	N2
4-Bromofluorobenzene (S)	%.	96	70-130	04/14/22 17:43	
Dibromofluoromethane (S)	%.	95	70-130	04/14/22 17:43	
Toluene-d8 (S)	%.	107	70-130	04/14/22 17:43	

LABORATORY CONTROL SAMPLE:	3091258					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L		23.7	118	70-130	N2
1,1,1-Trichloroethane	ug/L	20	21.6	108	70-130	N2
1,1,2,2-Tetrachloroethane	ug/L	20	23.1	116	70-130	N2
1,1,2-Trichloroethane	ug/L	20	22.8	114	70-130	N2
1,1-Dichloroethane	ug/L	20	19.8	99	70-130	N2
1,1-Dichloroethene	ug/L	20	20.0	100	70-130	N2
1,1-Dichloropropene	ug/L	20	21.4	107	70-130	N2
1,2,3-Trichloropropane	ug/L	20	23.5	118	70-130	N2
1,2,4-Trichlorobenzene	ug/L	20	24.7	123	70-130	N2
1,2-Dichlorobenzene	ug/L	20	24.0	120	70-130	N2
1,2-Dichloroethane	ug/L	20	19.7	99	70-130	N2
1,2-Dichloropropane	ug/L	20	20.4	102	70-130	N2
1,3-Dichlorobenzene	ug/L	20	23.8	119	70-130	N2
1,3-Dichloropropane	ug/L	20	21.9	109	70-130	N2
1,4-Dichlorobenzene	ug/L	20	22.9	115	70-130	N2
2,2-Dichloropropane	ug/L	20	22.2	111	70-130	N2
2-Chlorotoluene	ug/L	20	23.3	116	70-130	N2
4-Chlorotoluene	ug/L	20	24.4	122	70-130	N2
Benzene	ug/L	20	19.4	97	70-130	N2
Bromobenzene	ug/L	20	21.1	106	70-130	N2
Bromodichloromethane	ug/L	20	20.6	103	70-130	N2
Bromoform	ug/L	20	26.2	131	70-130	L1,N2
Bromomethane	ug/L	20	29.0	145	70-130	L1,N2
Carbon tetrachloride	ug/L	20	21.8	109	70-130	N2
Chlorobenzene	ug/L	20	22.6	113	70-130	N2
Chloroethane	ug/L	20	23.3	117	70-130	N2
Chloroform	ug/L	20	18.6	93	70-130	N2
Chloromethane	ug/L	20	15.8	79	70-130	N2
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-130	N2
cis-1,3-Dichloropropene	ug/L	20	22.8	114	70-130	N2
Dibromochloromethane	ug/L	20	23.8	119	70-130	N2
Dibromomethane	ug/L	20	19.2	96	70-130	N2
Ethylbenzene	ug/L	20	22.8	114	70-130	N2

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#### **REPORT OF LABORATORY ANALYSIS**

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Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

ORATORY CONTROL SAMPLE	: 3091258					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
-Xylene	ug/L		22.7	114	70-130	N2
yl-tert-butyl ether	ug/L	20	19.9	100	70-130	N2
ylene Chloride	ug/L	20	18.7	93	70-130	N2
lene	ug/L	20	23.0	115	70-130	N2
ene	ug/L	20	23.2	116	70-130	N2
achloroethene	ug/L	20	23.6	118	70-130	N2
ene	ug/L	20	22.3	112	70-130	N2
s-1,2-Dichloroethene	ug/L	20	21.4	107	70-130	N2
s-1,3-Dichloropropene	ug/L	20	23.2	116	70-130	N2
loroethene	ug/L	20	21.5	108	70-130	N2
l chloride	ug/L	20	22.4	112	70-130	N2
omofluorobenzene (S)	%.			97	70-130	
omofluoromethane (S)	%.			95	70-130	
ene-d8 (S)	%.			103	70-130	

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	ATE: 3091	259		3091260	)					
Parameter	5 Units	0313426001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	31.2	26.8	156	134	70-130	15	20 M1,N2
1,1,1-Trichloroethane	ug/L	ND	20	20	25.7	23.2	128	116	70-130	10	20 N2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	30.4	26.6	152	133	70-130	14	20 M1,N2
1,1,2-Trichloroethane	ug/L	ND	20	20	28.8	25.3	144	126	70-130	13	20 M1,N2
1,1-Dichloroethane	ug/L	ND	20	20	23.9	21.2	119	106	70-130	12	20 N2
1,1-Dichloroethene	ug/L	ND	20	20	24.8	22.3	124	111	70-130	11	20 N2
1,1-Dichloropropene	ug/L	ND	20	20	29.7	25.7	149	128	70-130	15	20 M1,N2
1,2,3-Trichloropropane	ug/L	ND	20	20	30.2	27.2	151	136	70-130	11	20 M1,N2
1,2,4-Trichlorobenzene	ug/L	ND	20	20	30.7	27.2	153	136	70-130	12	20 M1,N2
1,2-Dichlorobenzene	ug/L	ND	20	20	29.4	25.8	147	129	70-130	13	20 M1,N2
1,2-Dichloroethane	ug/L	ND	20	20	23.5	20.7	118	104	70-130	13	20 N2
1,2-Dichloropropane	ug/L	ND	20	20	25.6	21.8	128	109	70-130	16	20 N2
1,3-Dichlorobenzene	ug/L	ND	20	20	29.1	25.8	145	129	70-130	12	20 M1,N2
1,3-Dichloropropane	ug/L	ND	20	20	27.8	24.1	139	121	70-130	14	20 M1,N2
1,4-Dichlorobenzene	ug/L	ND	20	20	28.7	25.2	144	126	70-130	13	20 M1,N2
2,2-Dichloropropane	ug/L	ND	20	20	28.2	24.3	141	121	70-130	15	20 M1,N2
2-Chlorotoluene	ug/L	ND	20	20	28.7	25.2	143	126	70-130	13	20 M1,N2
4-Chlorotoluene	ug/L	ND	20	20	30.3	26.9	151	134	70-130	12	20 M1,N2
Benzene	ug/L	ND	20	20	24.4	21.4	122	107	70-130	13	20 N2
Bromobenzene	ug/L	ND	20	20	26.4	23.2	132	116	70-130	13	20 M1,N2
Bromodichloromethane	ug/L	ND	20	20	25.5	21.6	128	108	70-130	17	20 N2
Bromoform	ug/L	ND	20	20	30.1	26.3	150	131	70-130	13	20 M0,N2
Bromomethane	ug/L	ND	20	20	28.2	23.2	141	116	70-130	20	20 M0,N2
Carbon tetrachloride	ug/L	ND	20	20	27.7	24.5	138	122	70-130	12	20 M1,N2
Chlorobenzene	ug/L	ND	20	20	28.3	24.7	141	123	70-130	14	20 M1,N2
Chloroethane	ug/L	ND	20	20	27.4	23.3	137	116	70-130	16	20 M1,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.



Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

MATRIX SPIKE & MATRIX SF	IKE DUPLI	CATE: 3091	259		3091260							
			MS	MSD								
	5	0313426001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD Q	Qual
Chloroform	ug/L	ND	20	20	22.1	18.9	111	95	70-130	16	20 N2	
Chloromethane	ug/L	ND	20	20	16.1	14.8	81	74	70-130	9	20 N2	
cis-1,2-Dichloroethene	ug/L	ND	20	20	25.4	22.0	127	110	70-130	14	20 N2	
cis-1,3-Dichloropropene	ug/L	ND	20	20	28.5	24.1	142	121	70-130	17	20 M1,	, N2
Dibromochloromethane	ug/L	ND	20	20	29.4	25.5	147	128	70-130	14	20 M1,	, N2
Dibromomethane	ug/L	ND	20	20	23.8	20.3	119	102	70-130	16	20 N2	
Ethylbenzene	ug/L	ND	20	20	28.2	25.0	141	125	70-130	12	20 M1,	, N2
m&p-Xylene	ug/L	ND	20	20	58.0	50.9	290	255	70-130	13	20 M1,	, N2
Methyl-tert-butyl ether	ug/L	ND	20	20	24.1	21.5	120	108	70-130	11	20 N2	
Methylene Chloride	ug/L	ND	20	20	20.7	18.6	104	93	70-130	11	20 N2	
o-Xylene	ug/L	ND	20	20	29.2	24.8	146	124	70-130	16	20 M1,	, N2
Styrene	ug/L	ND	20	20	28.8	24.7	144	124	70-130	15	20 M1,	, N2
Tetrachloroethene	ug/L	ND	20	20	29.1	25.8	146	129	70-130	12	20 M1,	, N2
Toluene	ug/L	ND	20	20	27.9	24.5	140	123	70-130	13	20 M1,	, N2
trans-1,2-Dichloroethene	ug/L	ND	20	20	25.7	22.9	128	115	70-130	11	20 N2	
trans-1,3-Dichloropropene	ug/L	ND	20	20	27.6	24.5	138	123	70-130	12	20 M1,	, N2
Trichloroethene	ug/L	ND	20	20	26.1	23.2	130	116	70-130	12	20 N2	
Vinyl chloride	ug/L	ND	20	20	21.0	18.7	105	94	70-130	12	20 N2	
4-Bromofluorobenzene (S)	%.						95	96	70-130			
Dibromofluoromethane (S)	%.						92	93	70-130			
Toluene-d8 (S)	%.						103	104	70-130			

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.



#### **QUALIFIERS**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

#### **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**

Date: 04/21/2022 10:55 AM

- L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- 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.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: M20032 Muncie Phase II

Pace Project No.: 50313435

Date: 04/21/2022 10:55 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50313435001	DW-20	EPA 200.8	671085	EPA 200.8	671359
50313435001	DW-20	EPA 245.1	671366	EPA 245.1	671891
50313435001	DW-20	EPA 524.2	670792		
50313435001	DW-20	EPA 524.2	671276		

Pace Analytical*		sample via the Condition	s chain of custo s found at: http	DY Analy dy constitutes a s://info.pacelab EGAL DOCUM	cknowledgmen bs.com/hubfs/p	t and acceptar as-standard-te	rms.pdf		s and			LAB	USE O	NLY- A	Affix Wo		25-70-057-0380	Label He in Numl		ist Pace Workorder Number or e
Company: Mundell and Associ	ates, Inc.		Billing Info	ormation:									ALL	BOL	DOL	JTLIN	IED A	REAS	are f	or LAB USE ONLY
Address: 110 S Downey Ave, Ir	ndianapolis, IN 4621	9	1105	Downey Av	ve, Indianap	olis, IN 462	19								-	е Туре	-			roject Manager:
Report To: Luke Johnstone			Email To:	Ljohnstone	@mundella	ssociates.c	om			1 ** Pr	3 eservati	8 ve Typ	o es: (1)	nitric ac	id. (2) s	ulfuric a	cid. (3) hy	drochlorie	c acid. (4	1) sodium hydroxide, (5) zinc acetate,
Сору То:				tion Info/A		Muncie,	Indiana			(6) m	ethanol,	(7) so	dium b	sulfate	, (8) sod	ium this	sulfate, (	9) hexane	, (A) asc	orbic acid, (B) ammonium sulfate, zma, Trizma & DI water
Customer Project Name/Numb M20032 Muncie Phase II	er:		1.000	County/City Muncie		e Zone Coll	ected:	0.16		Hg)				Ana	lyses	533	100		Lab :	rofile/Line: Sample Receipt Checklist: ody Seals Present/Intact Y N NA
Phone: 317-630-9060 Email: Ljohnstone@mundellass	Site/Facility ID sociates.com	#:				e Monitori				for						3			Custo Coll	ody Signatures Present Y N NA ector Signature Present Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:	er#:			DW PWS I					id 245.1				U.			0		Corr	les Intact Y N NA ect Bottles Y N NA icient Volume Y N NA
Collected By (Signature):	Turnaround D	ate Requir	red:		Immediate [x] Yes	ely Packed	on Ice:		Glass (G)	200.8 (and				-			13	-	VOA -	les Received on Ice Y N NA - Headspace Acceptable Y N NA Regulated Soils Y N NA
Sample Disposal:  [x ] Dispose as appropriate  [] Return  [] Archive:	Rush: (Exped [ ] Same I [ ] 2 Day [ ] 4 Day	Day [ ] N [ ] 3 Day	lext Day		Field Filter [ ] Yes Analysis: _	red (if appli	cable):		ò	Total RCRA 8 Metals via EPA 20	EPA 524.2		537.1						Samp Residuel Cl Si Samp pH Si	les in Holding Time Y N NA dual Chlorine Present Y N NA trips: le pH Acceptable Y N NA trips:
* Matrix Codes (Insert in Matrix Product (P), Soil/Solid (SL), Oi	기다리 경기가하다. "해 가게하는?	F		4 7 4 5 6 6 5		The state of the s	),		Type: P	RA 8 Me	Il list via	PA 505	via EPA 53						Lead	ide Present Y N NA Acetate Strips:
Customer Sample ID	Matrix *	Comp / Grab		cted (or site Start) Time	Compo	Site End	Res	# of Ctns	Container Type: Plastic (P)	Total RCI	VOC's full list via EPA	PCB via EPA 505	PFAS via				N.		Lab :	USE ONLY: Sample # / Comments:
Dw-20	DW/GW	Grab	417	12:32				7	G/P	X	х		X				- 1			
DW-20 Field 81	lmint		417	12:32				- 1	P				X							
Customer Remarks / Special Co	onditions / Possible	Hazards:	Type of Ic	e Used:	Wet	Blue	Dry	None		100	SHO	RT HC	OLDS P	RESEN	T (<72	hours)	: Y 1	N/A		LAB Sample Temperature Info:
VOC full list, Total RCRA 8 N	Metals, PFAS		THE RESERVE	laterial Used					48	P	0.000	Tracki	-							Temp Blank Received: Y N NA Therm ID#: Cooler 1 Temp Upon Receipt: oC
All sampled via drinking wa	ter methods		Radchem	sample(s) s	creened (<5	00 cpm):	Y 1	N NA			100	ples r	eceive UP		lient	Courie	r Pace	Courier		Cooler 1 Therm Corr. Factor: o Cooler 1 Corrected Temp: oC Comments:
Relinquished by/Company/(Sig		M	e/Time:	1115	Received b	-	_	-	066			418		_	115	Table	#:	USE ONL	THE REAL PROPERTY.	See scur
Relinquished by/Company: (Signature)	enature)		e/Time:	1230	Received b	1//	(Signa		_	-		Date/	Time: 7-21	, 12	:50	NAME OF TAXABLE PARTY.	olate:			Trip Blank Received: Y N NA HCL MeOH TSP Other
Relinquished by/Company: (Sig	gnature)	Date	e/Time:		Received b	y/Company	<del>(Signa</del>	ture)				Date/	Time:			PM: PB:				Non Conformance(s): Page: of:

# Pace Analytical\*

## SAMPLE CONDITION UPON RECEIPT FORM

Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PAC     Custody Seal on Cooler/Box Present: ☐ Yes	No		5. Packing Material: Bubble Wrap	☑ Bubbl		
(If yes)Seals Intact:  Yes  No (leave blank  3. Thermometer: 123456 ABC  EF  4. Cooler Temperature: 0.9/0.7 0.2/0.0 0.3/0  Temp should be above freezing to 6°C (Initial/Corrected)		were pres	6. Ice Type: Wet 🗆 Blue 🗀 Non-		:□ Yes	□ No
All	discrepanc	ies will be	written out in the comments section below.			
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)	Yes	No /	All containers needing acid/base pres. Have been CHECKED?: exceptions: VOA, coliform, LLHg, O&G, and any	Yes	No	N/A
Short Hold Time Analysis (48 hours or less)? Analysis:		/	container with a septum cap or preserved with HCI.  Circle:  (NO3 (<2)) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)  Any non-conformance to pH recommendations will be noted on the containe count form	-/,		i let
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:	,	Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):		1	Residual Chlorine Check (Total/Amenable/Free Cyanide)			1
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			/
Containers Intact?:	1		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	$\sqrt{}$		Trip Blank Present?	<b>V</b>	7	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:		<b>V</b>	1
COMMENTS: Tip blank «creided no	t on	Cov	Ac 48-22			

COC	PAGE	of

# **Sample Container Count**

		DI MeOH (only) BK Kit																												
		BK																											lot on co	
COC   Line Item	WGFU	R	PG9H	VOA VIAL HS (>6mm)	VG9U	Dead	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	ССЗН	Syringe Kit	1	Matrix	HNO3/	NaOH/ ZNAc pH >9	
1			3			3												2	1								w7			11
2					[										: =			1												
3																		1									17			
4																												-		
5																													-	
6																														
7																					1 1									1 - 1
8								_																			_			
9																											-			
10		1 5		1.1.																							$\perp$			

Container Codes

	Gla	SS				Plas	iti	c / Misc.
DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic	BP4U	U 12	25mL unpreserved plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic	BP41	N 12	25mL HNO3 plastic
DG9S	40mL H2SO4 amber vial	BG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic	BP48	s 12	25mL H2SO4 plastic
DG9T	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic	1		
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac	Syrin	ige K	LL Cr+6 sampling kit
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	1		
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	AF	A	Air Filter
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	С	Α	Air Cassettes
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	R	T	erracore kit
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	SP5	T 1	20mL Coliform Na Thiosulfate
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	врзв	250mL NaOH plastic	U	S	Summa Can
JGFU	4oz unpreserved amber wide	AG2U			250mL HNO3 plastic	ZPL	CZ	Tiploc Bag
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	WT		Water
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	SL		Solid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	NAL	. 0	L Non-aqueous liquid Oil
						WP		Wipe



#### Pace Analytical Services, LLC.

1700 Elm Street Minneapolis, MN 55414 Phone: 612.607.1700

Fax: 612.607.6444

## **Report Prepared for:**

Luke Johnstone Mundell And Associates 110 South Downey Avenue Indianapolis IN 46219

> REPORT OF LABORATORY **ANALYSIS FOR PFAAs**

### **Report Information:**

Pace Project #: 10604141

Sample Receipt Date: 04/12/2022

Client Project #: M20032 Muncie Phase II

Client Sub PO #: N/A State Cert #: N/A

### **Invoicing & Reporting Options:**

The report provided has been invoiced as a Level 2 PFAA Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Kirsten Hogberg, your Pace Project Manager.

This report has been reviewed by:

April 22, 2022

Kirsten Hogberg, Project Manager (612) 607-6407

(612) 607-6444 (fax)

kirsten.hogberg@pacelabs.com



## **Report of Laboratory Analysis**

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

The results relate only to the samples included in this report.

April 18, 2022

### **DISCUSSION**

This report presents the results from the analyses performed on three samples submitted by a representative of Mundell And Associates. The samples were analyzed for eighteen perfluorinated compounds using USEPA Method 537.1 for PFAS drinking water. Reporting limits were set to the quantitation limits.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank was free of the target perfluorinated compounds at the reporting limits. This indicates that the sample processing procedures did not significantly contribute to the analyte content determined for the sample material.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The recovery results were within the method limits. The RPDs (relative percent differences) between one designated spike and its duplicate were within the method limits. A matrix spike was prepared with the sample batch using sample material from a separate project; results from that analysis will be provided upon request.

The recoveries of the isotopically-labeled surrogate standards in the sample extracts were within the target ranges specified in the method.

Concentrations below the calibration range were flagged "J" and should be regarded as estimates.



Tel: 612-607-1700 Fax: 612-607-6444

# Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Missouri	10100
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska-DW	MN00064	Nevada	MN00064
Alaska-UST	17-009	New Hampshire	2081
Arizona	AZ0014	New Jersey	MN002
Arkansas - WW	88-0680	New York	11647
Arkansas-DW	MN00064	North Carolina-	27700
California	2929	North Carolina-	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio-DW	41244
Florida	E87605	Ohio-VAP (170	CL101
Georgia	959	Ohio-VAP (180	CL110
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon- rimary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.
Mississippi	MN00064		

### **REPORT OF LABORATORY ANALYSIS**

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# Appendix A

Sample Management



Tel: 612-607-1700 Fax: 612-607-6444

# **Sample ID Cross Reference**

Client Sample ID	Pace Sample ID	<b>Date</b> Received	Sample Type
DW-20	10604141001	04/12/2022	<b>Drinking Water</b>
DW-20 Field Blank	10604141002	04/12/2022	<b>Drinking Water</b>
Trip Blank	10604141003	04/12/2022	<b>Drinking Water</b>

### **REPORT OF LABORATORY ANALYSIS**

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

Company: Mundell and Associa Address: 110 S Downey Ave, Inc. Report To: Luke Johnstone Copy To: Customer Project Name/Number M20032 Muncie Phase II Phone: 317-630-9060 Email: Ljohnstone Collected By (print): Luke Johnstone Collected By (print): Luke Johnstone I Collected By (finature): Sample Disposal: [x] Dispose as appropriate [] Return [] Archive: [] Hold: Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL Customer Sample ID  Dw-20  Dw-20  Dw-20  Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL  Dw-20  Dw-20  Matrix Codes (Insert in Matrix box Product (P), Soil/Solid (SL), Oil (OL	Conditic Chain-of tes, Inc.  dianapolis, IN 46219  Site/Facility ID #: iates.com Purchase Order #: Quote #: Turnaround Date Require  Rush: (Expedite Charges / [ ] Same Day [ ] Ne [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day  x below): Drinking Water (DI), Wipe (WP), Air (AR), Tissu  Matrix * Comp / Grab  DW/GW Grab	Email To: Ljohnsto  Site Collection Info, 3701 S Hoyt  State: County/C IN / Muncie  d:  Apply)  xt Day	Address:  Ave Indianapolis,  Ave, Indianapolis,  Ave, Indianapolis,  Ave, Indianapolis,  Ave Multiv: Time Zone  [ ]PT [ ]  Compliance Mor  [ ] Yes [ ]  DW PWS ID #:  DW Location Coc  Immediately Paci  [ X Yes [ ]  Field Filtered (if a  [ ] Yes [ x ]  Analysis:	acceptance of the Pace inductive from Spirit Fellows II relevant fields  II relevant fields  IN 46219  ates.com  Incie, Indiana  e Collected:  MT [ ]CT [X]ET intoring?  No  de:  ked on Ice: No pplicable): No  //W), )  Res # of Ctns	Ter Type: Plastic (P) or Glass (G)	VOC's full list via EPA 524.2  PCB via EPA 505  We have a significant of the significant	Analyses  WO#	10604	Samples in Holding Tresidual Chlorine Processing Processing Process Sample pH Acceptable pH Strips:  Lab Sample Present Lead Accetate Strips:  LAB USE ONLY: Lab Sample # / Commer Sec Sec Qual College Colleg	YN NA YN NA YN NA YN NA
Customer Remarks / Special Condition VOC full list, Total RCRA 8 Metals, P All sampled via drinking water meth Relinquished by/Companys (Signature) Relinquished by/Companys (Signature) Relinquished by/Companys (Signature)	Pack Pack Pack Pack Pack Pack Pack Pack	them sample(s) screen  Rece	ned (<500 cpm): eived by/Company: ived by/Company	(Signature)	<u>-</u>	Samples received  EDD UPS  Date/Time:  Date/Time:	10604141  EESENT (<72 hours  Via: Client Couri Table Acctr	Pr Pace Courier  OTJL LAB USE ONLY  OH:	LAB Sample Temperatur Temp Blank Received Therm ID#: Cooler 1 Temp Upon Cooler 1 Therm Corr Cooler 1 Corrected Comments:  Trip Blank Received HCL MeOH TS  Non Conformance(s):	Receipt: Soc Factor Ne oc Temp: 1.8 oc

Pace Analytical		emple via this Conditions	chain of custod	OY Analy y constitutes ac //info.pacefalo	knowledgmen com/hubfs/pa	t and acceptan	ce of the F rms.pdf		and			LAB US	E OF	LY-Affix				iere or L nber Her	ist Pace W re	orkorder I	Number or	
Company: Mundell and Associates	. Inc.	Chain-of-C	Billing Info	rmation:	ent - Compie	re all releva	at neros					۸		onin e	MITTER	JED-A	DEAG		for LAB	HEEA	MIV	
Address: 110 S Downey Ave, India	Section manners with	<b>&gt;</b>	1105	Downey Av	e, Indianap	olis, IN 462	19	paggatiya bayriya a Cibi. Abul	300.000.000.00						,		INCA.				IAFI	
Report To: Luke Johnstone			Email To:	Ljohnstone(	@mundelia	ssociates c	om	isinga hamanania	·	1 •• pre	L1	8	0		tive Type  I sulfuric a		vdrochlo		roject Mai	100	zinc acetat	e.
Сору То		<del> </del>		tion Info/Ad S Hoyt Av		Muncie.	Indiana			(6) me	thanol,	(7) sodii	um bi:	ulfate, (8) D) TSP, (U)	sodium thic Unpreserve	osulfate,	(9) hexau	ne, (A) asc water, Tri	corbic acid, ( izma, Trizma	8) ammonit & Di water	ım sulfate,	
Customer Project Name/Number: M20032 Muncie Phase Ii		У,	* 1	County/City Muncie		e Zone Coll T [ ]MT [	394.76	X)ET		9		T		Analyse	s			Lab	rofile/time Sample S ody Seel	eceipt C		
Phone: 317-630-9060 Email: Ljohnstone@mundellassocia	Site/Facility ID aves.com				Complianc	e Monitori [ ] No	ng?	, , , , , , , , , , , , , , , , , , ,		T to t								Gari	ody Sign ector Sa les Inta	atures l Guature	resent	Y N NA Y N NA
Collected By (print): Luke Johnstone	Purchase Orde Quote #:				DW PWS I DW Locati	on Code:				and 245								Corr Suff	ect Bott icient V	les olume		Y N NA Y N NA Y NA
Collected by Menatural:	Turnaround D				[x] Yes	ly Packed (	j		Glass (G)									AOV	oles Rece - Headsp Regulat	ace Acce	ptable	Y N NA Y N NA Y N NA
Sample Disposal: [x ] Dispose as appropriate [ ] Return [ ] Archive:	Rush: (Expedi [ ] Same D [ ] 2 Day   [ ] 4 Day	ay   ]N   ]3 Day	.0.0/, 22		Field Filter [ ] Yes Analysis:_	ed (if appli [x] No	cable):	: s ;	Plastic (P) or G	als via EPA 200.8	EPA 524.2		1		*			Semp Resi C1 S Samp	oles in H dual Chl trips: We pH Ac	olding T orine Pr	ime esent	Y N NA Y N NA Y N NA
Hold:  * Matrix Codes (Insert in Matrix bo   Product (P), Soil/Solid (SL), Oil (Oil							F. 75		lype: Pla	CAA 8 Metals	list via	PA 505	EPA 537.1					Sulf	ide Pres Acetate			Y N NA
Customer Sample ID	Matrix *	Comp / Grab	<b>3</b>	ted (or ite Start) Time	Compo Date	site End	Res CI	# of Ctns	Container	Total RCF	VOC's full	PCB VIA E	PFAS via l					Lab	USE ONLY Sample (			
Dw-20	DW/GW	Grab	4/7	12:32				7	G/P	_×	¥		x						JCL	<u> Си</u>	<i>Y</i> -	
DW-20 Fieldsland			417	12:32				1	P		Ala On	at	*							- 4		
Customer Remarks / Special Condi	itions / Possible	Hazards:	Type of Ic	l kod	(Wei)	Blue	Ory	None			Isun	ST HOU	DS IA	ESENTIA	72 hours)	. ¥	N N		LAB Samo	le Temper	ature Info:	
VOC full list, Total RCRA 8 Meta	40 441 JO 11			aterial Used							4	racking							Temp Ela Therm II	nk secen	ved: C	AM N (
All sampled via drinking water in PFAS DILECT - (	methods MDY II	hz	Radchem	rample(s) sc	reened ( <s< td=""><td>00 cpm):</td><td>γ .</td><td>I NA</td><td></td><td>100</td><td>S W</td><td>oles rec</td><td>20.00</td><td></td><td>t Course</td><td>er Pac</td><td>e Courie</td><td>ef.</td><td>Cooler 1</td><td>Therm Correct</td><td>Grr. Fac</td><td>The co</td></s<>	00 cpm):	γ .	I NA		100	S W	oles rec	20.00		t Course	er Pac	e Courie	ef.	Cooler 1	Therm Correct	Grr. Fac	The co
Relinquished by/Company/Signat	ture)		/Time: 	1115	Received b	y/Company	r: (Signa	ture)	966			Date/Ti	75	_ 1112	Tabl		USE O	NLY		See		
Relinquished by/Company: (Signat	ture) —Pac	1 .	e/Time: c/S/97	1230	Received b	of Congrass	/(Signa	ture)		-		date/Ti	me 21	12:5	. 1	num: plate:				Blank Red CL MeOl		
Relinquished by/Company: (Signal			/Time:		Received b	y/Company	みし	ture)		\$ \$ <u>\$</u>		Date/Ti -{-12	-32 -32	ଥ:5	O PM:	-8-1-				formance / NO	(s): Page of:_	



## Document Name: Sample Condition Upon Receipt (SCUR)

Document No.:

Document Revised: 06Jan2022 Page 1 of 1

<u> </u>		Document No.: ENV-FRM-MIN4-0150 Rev.04	Pace Analytical Services -
Sample Condition	Client Name:	D	

	LIGH-FRI	VI-IVIIN4-U150 Rev.04	Pace Analytical Ser	vices - Minneapolis
Sample Condition Client Name:				
Upon Receipt		Project #:	14.4000	
Courier:	sociates Inc.	W	0#:1060	4141
Courier:	USPS [	]Client PM:		
— in Clabeere	e    Commercial	CLI	ENT: Mundell	Date: 05/03/22
-3-11-00-16	330 See	Exceptions  V-FRM-MIN4-0142		
Custody Seal on Cooler/Box Present?	<b>5</b> 4.	· • • • • • • • • • • • • • • • • • • •	<del>-</del>	
Packing Material: Bubble Wrap B		W		ozen? Yes No N/A
Thermometer: 171(0461) 77 72(1336)	[2/0.455] [5]	Type W	Temp Bl	
Did Samples Originate in West Virginia?	13(0459) [_] T4(0254) 10 [_] 122639816 [_] 1407928		]Blue □None □Di	ry
		tainer Temps Taken? 🗌 Yes	□no XIN/A	
	mp Read w/temp blank:_	1.8	OC Average Corr	onto d
Correction Factor: 100 Cooler Temp C	orrected w/temp blank:_	1.8	Temp (no ten	ected See Exceptions np blank ENV-FRM-MIN4-0142
			ºC   only):	°C ☐1 Container
Did samples originate in a quarantine zone within t LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (chec		Date/Initials of Pe	erson Examining Content	s: CSM4-12-22
If Yes to either question, fill out	k maps)?	No Hawaii and Pue	ginate from a foreign source	(internationally, including
If Yes to either question, fill out  Location (check one):   Duluth M	inneapolis	ENV-FRM-MIN4-0154 and	include with SCUR/COC	L_ No
Chain of Custody Present and Filled Out?	/		COMMENTS:	Fupciwoj K.
Chain of Custody Relinquished?	Yes □No	1.	John Marie 13.	
Sampler Name and/or Signature on COC3	Yes No No	2.		
Samples Arrived within Hold Time?	XIYes □No □N/ XIYes □No			
Short Hold Time Analysis (<72 hr)?	□Yes XNo	4. If Fecal: □<8 h	nrs □>8hr, <24 hrs, □>24 hr	s
Rush Turn Around Time Requested?		J → L   Fecal Coliform   THE	OC Total C-UK /	
Sufficient Volume?	Yes X No	6.	☐ Nitrite ☐ Orthophos ☐ Ot	her
Correct Containers Used?	Yes No	7.		
-Pace Containers Used?	Yes 🔲 No	8. Received 2 con-	tainers for s	
Containers Intact?	Yes □No No □No	DW-20 Field	tainers for Som Blonke Trip blan	ple col, received
Field Filtered Volume Received for Dissolved Tests?		9.		
is sufficient information available to reconcile the	∐Yes □No XN/A	-1 is seamlent visible in	n the dissolved container?	OVec ONe
samples to the COC?  Matrix: Water Soil Oil Other-	X Yes □No	11. If no, write ID/ Date/Tim	e on Container Below:	See Exception
All containers peeding as id!	_			ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	□Yes □No XN/A	12. Sample #		
All containers needing preservation are found to be in	77 ***			
The will the recommendation?				
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	∐Yes □No XIN/A	☐ NaOH ☐	] HNO₃ ☐H₂SO₄	☐Zinc Acetate
				T
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Disc.	Yes No NA	Positive for Res. Yes		_
DRO/8015 (water) and Dioxin PFAS	AYes ∐No □N/A	Chlorine? No	pH Paper Lot#	See Exception  ENV-FRM-MIN4-0142
Headspace in Markey and		Res. Chlorine 0-6 Roll	0-6 Strip	
Headspace in Methyl Mercury Container?  Extra labels present on soil VOA or WIDRO containers?  Headspace in VOA Viel.	□Yes □No XN/A			0-14 Strip
	□Yes □No XIN/A	13,		
The plank Present?	Yes □No N/A			See Exception
Trip Blank Custody Seals Present?	∐Yes □No N/A □Yes □No N/A	14.		ENV-FRM-MIN4-0140
CLIENT NOTIFICATION/RESOLUTION	∐Yes ∐No MN/A	Pace Trip Blank Lot # (ii	purchased):	
rerson contacted:			Fi-1.1 m	7v. [7
Comments/Resolution:		Date/Time:	reduited	]Yes □No
Project Manager D				
Project Manager Review: Kirston 1	logberg	Date		
ote: Whenever there is a discrepancy affecting North Carolla	2 complian	Date: 4/12/202	2	
ote: Whenever there is a discrepancy affecting North Carolin hold, incorrect preservative, out of temp, incorrect containe	a compliance samples, a copy rs).	of this form will be sent to the	North Carolina DELING Card	fice+! org
	•		DETINA CERT	Mication Office (i.e., out
		Labeled	by:	$M \bigcirc M$
				<u>'                                    </u>



# **Reporting Flags**

- A = Reporting Limit based on signal to noise (EDL)
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interferencepresent
- J = Estimated value
- L = Suppressive interference, analyte may be biased low
- Nn = Value obtained from additional analysis
- P = PCDEInterference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X =%D Exceeds limits
- Y = Calculated using average of daily RFs
- \* = SeeDiscussion

## **REPORT OF LABORATORY ANALYSIS**

# Appendix B

Sample Analysis Summary



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# **EPA Method 537.1**Sample Analysis Summary

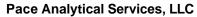
Client's Sample ID Lab Sample ID Filename Matrix Collected Received

DW-20 10604141001 A220415B\_043 Drinking\_Water 04/07/2022 04/12/2022 Date Extracted
Total Amount Extracted
ICAL ID
Starting CCal
Ending CCal
Method Blank Filename

04/14/2022 252 mL 220415A03 A220415B\_035 A220415B\_046 A220415B\_029

Compound	Concentration (ng/L)	<b>PQL</b> (ng/L)	<b>MDL</b> (ng/L)	Dilution	Analyzed	CAS No.	Qual.
HFPO-DA	ND	2.0	0.57	1	04/15/202219:24	13252-13-6	
NEtFOSAA	ND	2.0	0.60	1	04/15/202219:24	2991-50-6	
NMeFOSAA	ND	2.0	0.62	1	04/15/202219:24	2355-31-9	
PFBS	ND	1.7	0.47	1	04/15/202219:24	375-73-5	
PFDA	ND	2.0	0.35	1	04/15/202219:24	335-76-2	
PFDOA	ND	2.0	0.31	1	04/15/202219:24	307-55-1	
PFHpA	ND	2.0	0.92	1	04/15/202219:24	375-85-9	
PFHxS	ND	1.8	0.47	1	04/15/202219:24	355-46-4	
PFHxA	ND	2.0	0.59	1	04/15/202219:24	307-24-4	
PFNA	ND	2.0	0.54	1	04/15/202219:24	375-95-1	
PFOS	ND	1.8	0.43	1	04/15/202219:24	1763-23-1	
PFOA	ND	2.0	0.49	1	04/15/202219:24	335-67-1	
PFTDA	ND	2.0	0.64	1	04/15/202219:24	376-06-7	
PFTrDA	ND	2.0	0.63	1	04/15/202219:24	72629-94-8	
PFUnDA	ND	2.0	0.48	1	04/15/202219:24	2058-94-8	
11-CI-PF3OUdS	ND	1.9	0.61	1	04/15/202219:24	763051-92-9	
9-CI-PF3ON	ND	1.9	0.49	1	04/15/202219:24	756426-58-1	
DONA	ND	1.9	0.62	1	04/15/202219:24	919005-14-4	

our oguto otarruar ao						
SS Compound	Spiked	Found <sup>6</sup>	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	1.7	83	70 - 130	Pass	
13C2_PFDA	2.0	1.9	96	70 - 130	Pass	
d5-EtFOSAA	8.0	7.2	89	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.6	81	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	7.94793151	8.24538185	5 104	50-150	Pass	1177571
d3-MeFOSAA	31.7917260	39.2465698	3 123	50-150	Pass	1941254
13C4_PFOS	22.8105634	25.5104240	) 112	50-150	Pass	2495344



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# **EPA Method 537.1**Sample Analysis Summary

Client's Sample ID Lab Sample ID Filename Matrix Collected Received DW-20 Field Blank 10604141002 A220415B\_044 Drinking\_Water 04/07/2022 04/12/2022 Date Extracted
Total Amount Extracted
ICAL ID
Starting CCal
Ending CCal
Method Blank Filename

04/14/2022 253 mL 220415A03 A220415B\_035 A220415B\_046 A220415B\_029

Compound	Concentration (ng/L)	<b>PQL</b> (ng/L)	MDL (ng/L)	Dilution	Analyzed	CAS No.	Qual.
HFPO-DA	ND	2.0	0.57	1	04/15/202219:32	13252-13-6	
NEtFOSAA	ND	2.0	0.60	1	04/15/202219:32	2991-50-6	
NMeFOSAA	ND	2.0	0.62	1	04/15/202219:32	2355-31-9	
PFBS	ND	1.7	0.47	1	04/15/202219:32	375-73-5	
PFDA	ND	2.0	0.35	1	04/15/202219:32	335-76-2	
PFDOA	ND	2.0	0.31	1	04/15/202219:32	307-55-1	
PFHpA	ND	2.0	0.92	1	04/15/202219:32	375-85-9	
PFHxS	ND	1.8	0.47	1	04/15/202219:32	355-46-4	
PFHxA	ND	2.0	0.59	1	04/15/202219:32	307-24-4	
PFNA	ND	2.0	0.54	1	04/15/202219:32	375-95-1	
PFOS	ND	1.8	0.43	1	04/15/202219:32	1763-23-1	
PFOA	ND	2.0	0.49	1	04/15/202219:32	335-67-1	
PFTDA	ND	2.0	0.63	1	04/15/202219:32	376-06-7	
PFTrDA	ND	2.0	0.63	1	04/15/202219:32	72629-94-8	
PFUnDA	ND	2.0	0.48	1	04/15/202219:32	2058-94-8	
11-CI-PF3OUdS	ND	1.9	0.60	1	04/15/202219:32	763051-92-9	
9-CI-PF3ON	ND	1.9	0.49	1	04/15/202219:32	756426-58-1	
DONA	ND	1.9	0.62	1	04/15/202219:32	919005-14-4	

SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	1.9	96	70 - 130	Pass	
13C2_PFDA	2.0	1.8	90	70 - 130	Pass	
d5-EtFOSAA	8.0	6.8	85	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.7	86	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	7.91665033	8.2246743	I 104	50-150	Pass	1179255
d3-MeFOSAA	31.6666013	37.5087578	3 118	50-150	Pass	1862628
13C4_PFOS	22.7207864	25.6622236	5 113	50-150	Pass	2520111



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# **EPA Method 537.1**Sample Analysis Summary

Client's Sample ID Lab Sample ID Filename Matrix Collected

Received

Trip Blank 10604141003 A220415B\_045 Drinking\_Water

N/A

04/12/2022

Date Extracted 0
Total Amount Extracted 2
ICAL ID 2
Starting CCal A
Ending CCal A
Method Blank Filename A

04/14/2022 259 mL 220415A03 A220415B\_035 A220415B\_046 A220415B\_029

Compound	Concentration (ng/L)	<b>PQL</b> (ng/L)	MDL (ng/L)	Dilution	Analyzed	CAS No.	Qual.
HFPO-DA	ND	1.9	0.55	1	04/15/202219:40	13252-13-6	
NEtFOSAA	ND	1.9	0.58	1	04/15/202219:40	2991-50-6	
NMeFOSAA	ND	1.9	0.60	1	04/15/202219:40	2355-31-9	
PFBS	ND	1.7	0.45	1	04/15/202219:40	375-73-5	
PFDA	ND	1.9	0.34	1	04/15/202219:40	335-76-2	
PFDOA	ND	1.9	0.30	1	04/15/202219:40	307-55-1	
PFHpA	ND	1.9	0.89	1	04/15/202219:40	375-85-9	
PFHxS	ND	1.8	0.46	1	04/15/202219:40	355-46-4	
PFHxA	ND	1.9	0.57	1	04/15/202219:40	307-24-4	
PFNA	ND	1.9	0.53	1	04/15/202219:40	375-95-1	
PFOS	ND	1.8	0.42	1	04/15/202219:40	1763-23-1	
PFOA	ND	1.9	0.47	1	04/15/202219:40	335-67-1	
PFTDA	ND	1.9	0.62	1	04/15/202219:40	376-06-7	
PFTrDA	ND	1.9	0.62	1	04/15/202219:40	72629-94-8	
PFUnDA	ND	1.9	0.47	1	04/15/202219:40	2058-94-8	
11-CI-PF3OUdS	ND	1.8	0.59	1	04/15/202219:40	763051-92-9	
9-CI-PF3ON	ND	1.8	0.48	1	04/15/202219:40	756426-58-1	
DONA	ND	1.8	0.60	1	04/15/202219:40	919005-14-4	

Surrogate Staridards						
SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	2.0	99	70 - 130	Pass	
13C2_PFDA	2.0	2.0	98	70 - 130	Pass	
d5-EtFOSAA	8.0	7.1	88	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.8	92	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	7.71141420	7.96787404	103	50-150	Pass	1172840
d3-MeFOSAA	30.8456568	37.1843008	3 121	50-150	Pass	1895660
13C4_PFOS	22.1317587	25.9270158	3 117	50-150	Pass	2613879

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## **EPA Method 537.1 Blank Analysis Summary**

Lab Sample ID Filename Matrix Date Extracted BLANK-98070 A220415B\_029 Water 04/14/2022 Total Amount Extracted ICAL ID Starting CCal Ending CCal

250 mL 220415A03 A220415B\_024 A220415B\_035

Compound	Concentration (ng/L)	<b>PQL</b> (ng/L)	<b>MDL</b> (ng/L)	Dilution	Analyzed	CAS No.	Qual.
HFPO-DA	ND	2.0	0.57	1	04/15/202217:34	13252-13-6	
NEtFOSAA	ND	2.0	0.60	1	04/15/202217:34	2991-50-6	
NMeFOSAA	ND	2.0	0.63	1	04/15/202217:34	2355-31-9	
PFBS	ND	1.8	0.47	1	04/15/202217:34	375-73-5	
PFDA	ND	2.0	0.35	1	04/15/202217:34	335-76-2	
PFDOA	ND	2.0	0.32	1	04/15/202217:34	307-55-1	
PFHpA	ND	2.0	0.93	1	04/15/202217:34	375-85-9	
PFHxS	ND	1.8	0.47	1	04/15/202217:34	355-46-4	
PFHxA	ND	2.0	0.59	1	04/15/202217:34	307-24-4	
PFNA	ND	2.0	0.55	1	04/15/202217:34	375-95-1	
PFOS	ND	1.8	0.43	1	04/15/202217:34	1763-23-1	
PFOA	ND	2.0	0.49	1	04/15/202217:34	335-67-1	
PFTDA	ND	2.0	0.64	1	04/15/202217:34	376-06-7	
PFTrDA	ND	2.0	0.64	1	04/15/202217:34	72629-94-8	
PFUnDA	ND	2.0	0.49	1	04/15/202217:34	2058-94-8	
11-CI-PF3OUdS	ND	1.9	0.61	1	04/15/202217:34	763051-92-9	
9-CI-PF3ON	ND	1.9	0.49	1	04/15/202217:34	756426-58-1	
DONA	ND	1.9	0.62	1	04/15/202217:34	919005-14-4	

Surrogate Startuarus						
SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	1.8	90	70 - 130	Pass	
13C2_PFDA	2.0	1.8	91	70 - 130	Pass	
d5-EtFOSAA	8.0	6.5	81	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.6	82	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	8	8.72576454		50-150	Pass	1238066
d3-MeFOSAA	32	37.2919093		50-150	Pass	1832565
13C4_PFOS	22.96	25.3012119	9 110	50-150	Pass	2458772

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# **EPA Method 537.1 Laboratory Control Sample (LCS)**

LCS Lab Sample ID LCS Filename Total Amount Extracted

Total Amount Extracted ICAL ID
Start CCal Filename
End CCal Filename
Method Blank Filename

LCS-98071 A220415B\_030 250mL 220415A03 A220415B\_024 A220415B\_035

A220415B\_029

Matrix Water Dilution 1

Extracted 04/14/2022 Analyzed 04/15/2022 17:41

Injected By QL

Compound	<b>Spiked</b> (ng/L)	Recovered (ng/L)	Recovery %	Limits	
HFPO-DA	2.0	2.1	104	50.0 - 150.0	
NEtFOSAA	2.0	1.9 J	96	50.0 - 150.0	
NMeFOSAA	2.0	1.9 J	93	50.0 - 150.0	
PFBS	1.8	2.0	116	50.0 - 150.0	
PFDA	2.0	2.2	111	50.0 - 150.0	
PFDOA	2.0	2.2	110	50.0 - 150.0	
PFHpA	2.0	2.3	114	50.0 - 150.0	
PFHxS	1.8	1.9	104	50.0 - 150.0	
PFHxA	2.0	2.3	117	50.0 - 150.0	
PFNA	2.0	2.4	119	50.0 - 150.0	
PFOS	1.8	2.0	107	50.0 - 150.0	
PFOA	2.0	2.1	107	50.0 - 150.0	
PFTDA	2.0	2.3	116	50.0 - 150.0	
PFTrDA	2.0	2.2	108	50.0 - 150.0	
PFUnDA	2.0	2.1	107	50.0 - 150.0	
11-CI-PF3OUdS	1.9	2.0	107	50.0 - 150.0	
9-CI-PF3ON	1.9	2.0	108	50.0 - 150.0	
DONA	1.9	2.1	111	50.0 - 150.0	

#### Surrogate Standards

13C2\_PFOA

13C4\_PFOS

d3-MeFOSAA

Surrogate Standards						
SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	1.9	96	70 - 130	Pass	
13C2_PFDA	2.0	2.0	99	70 - 130	Pass	
d5-EtFOSAA	8.0	7.0	87	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.8	90	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area

103

111

108

50-150

50-150

50-150

8.23660273

35.5559892

24.8629449

8

32

22.96

1168661

1747260

2416181

**Pass** 

**Pass** 

**Pass** 

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# **EPA Method 537.1 Laboratory Control Sample (LCS)**

LCS Lab Sample ID LCS Filename **Total Amount Extracted** 

ICAL ID Start CCal Filename End CCal Filename Method Blank Filename A220415B\_029

LCS-98072 A220415B\_031 250mL 220415A03 A220415B 024 A220415B\_035

Matrix Water Dilution

Extracted 04/14/2022 Analyzed 04/15/2022 17:49

Injected By QL

Compound	<b>Spiked</b> (ng/L)	Recovered (ng/L)	Recovery %	Limits	
HFPO-DA	40	39	97	70.0 - 130.0	
NEtFOSAA	40	38	94	70.0 - 130.0	
NMeFOSAA	40	37	91	70.0 - 130.0	
PFBS	36	36	102	70.0 - 130.0	
PFDA	40	43	107	70.0 - 130.0	
PFDOA	40	43	109	70.0 - 130.0	
PFHpA	40	41	102	70.0 - 130.0	
PFHxS	36	39	108	70.0 - 130.0	
PFHxA	40	43	108	70.0 - 130.0	
PFNA	40	43	107	70.0 - 130.0	
PFOS	37	40	107	70.0 - 130.0	
PFOA	40	39	98	70.0 - 130.0	
PFTDA	40	45	113	70.0 - 130.0	
PFTrDA	40	42	106	70.0 - 130.0	
PFUnDA	40	42	104	70.0 - 130.0	
11-CI-PF3OUdS	37	36	98	70.0 - 130.0	
9-CI-PF3ON	38	42	112	70.0 - 130.0	
DONA	38	38	101	70.0 - 130.0	

ourrogate otaridards						
SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	2.0	101	70 - 130	Pass	
13C2_PFDA	2.0	2.0	102	70 - 130	Pass	
d5-EtFOSAA	8.0	7.2	90	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.9	94	70 - 130	Pass	
Internal Standards	Known	Conc		Recovery		

Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	8	7.78863884	97	50-150	Pass	1105101
d3-MeFOSAA	32	32.6015762	102	50-150	Pass	1602077
13C4_PFOS	22.96	23.2536691	101	50-150	Pass	2259792

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## **EPA Method 537.1 Laboratory Control Sample Duplicate (LCSD)**

LCSD Lab Sample ID LCSD Filename Total Amount Extracted

Total Amount Extracted ICAL ID Start CCal Filename

Start CCal Filename End CCal Filename Method Blank Filename LCSD-98073 A220415B\_032 250mL 220415A03

A220415B\_024 A220415B\_035 A220415B\_029 LCS Filename A220415B\_031 Matrix Water

Matrix W Dilution 1

Extracted 04/14/2022 Analyzed 04/15/2022 17:57

Injected By QL

Compound	<b>Spiked</b> (ng/L)	Recovered (ng/L)	Recovery %	Recovery Limits	RPD %
HFPO-DA	40	37	92	70.0 - 130.0	5
NEtFOSAA	40	36	89	70.0 - 130.0	5 5
NMeFOSAA	40	36	91	70.0 - 130.0	1
PFBS	36	37	104	70.0 - 130.0	3
PFDA	40	37	93	70.0 - 130.0	14
PFDOA	40	40	100	70.0 - 130.0	8
PFHpA	40	37	93	70.0 - 130.0	8 9 9 7
PFHxS	36	36	99	70.0 - 130.0	9
PFHxA	40	40	100	70.0 - 130.0	7
PFNA	40	40	100	70.0 - 130.0	7
PFOS	37	41	110	70.0 - 130.0	3
PFOA	40	38	96	70.0 - 130.0	2
PFTDA	40	41	102	70.0 - 130.0	10
PFTrDA	40	39	99	70.0 - 130.0	7
PFUnDA	40	37	94	70.0 - 130.0	11
11-CI-PF3OUdS	37	36	96	70.0 - 130.0	2
9-CI-PF3ON	38	41	108	70.0 - 130.0	4 3
DONA	38	37	98	70.0 - 130.0	3

#### Surrogate Standards

13C4\_PFOS

Surrogate Standards						
SS Compound	Spiked	Found	%Recovery	Limits	Pass/Fail	
13C2_PFHxA	2.0	1.9	94	70 - 130	Pass	
13C2_PFDA	2.0	1.8	89	70 - 130	Pass	
d5-EtFOSAA	8.0	6.9	87	70 - 130	Pass	
13C3_HFPO-DA	2.0	1.7	87	70 - 130	Pass	
Internal Standards	Known	Conc.		Recovery		
Compound	Conc.	Found	%Recovery	Limits	Pass/Fail	Area
13C2_PFOA	8	8.64347677	108	50-150	Pass	1226391
d3-MeFOSAA	32	35.2514215	110	50-150	Pass	1732294

108

50-150

Pass

24.8408183

22.96

2414031

# **APPENDIX B**

# **XRF RAW DATA OUTPUT**



Serial Number: 841443 Time: 2021-12-02 07:23:10

Chemistry

Method: Cal Check Daily ID: 1C

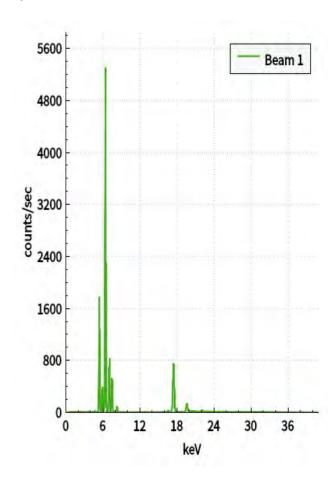
Elapsed Time : 15 s

Cal Check: Passed Resolution: 136 Count: 82275 Slope: 0.0200013 Offset: -0.015038

Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

### Spectrum



Signature:	Date:	

Serial Number: 841443

Time : 2021-12-02 07:24:07

Method : Geochem(3-Beam)
Daily ID : 2

Chemistry

Elapsed Time : 50 s

Elapsed time: 50.0s

El	PPM	+/- 3σ
Cr	ND	<93
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<53
Ва	ND	<1400
Hg	ND	<21
Pb	ND	<8

Spectrum

Notes

info: blank1

Signature:

Serial Number: 841443 Time: 2021-12-02 08:02:29

Method : Geochem(3-Beam)

Daily ID:3

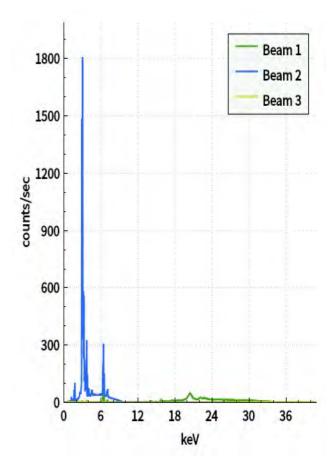
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	10	9
Ва	53	25
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<20
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<55
Pb	ND	<25

Spectrum



Notes info: E1

Signature: Date:

ate·

Serial Number: 841443 Time: 2021-12-02 08:09:12

Method : Geochem(3-Beam)

Daily ID:4

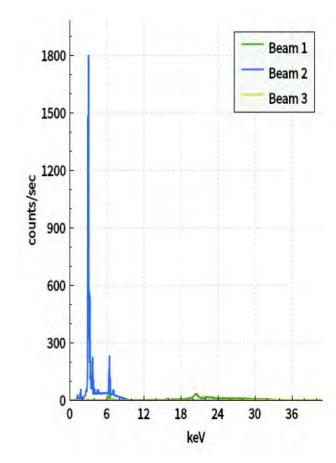
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	40	22
El	PPM	+/- 3σ
Cr	ND	<390
As	ND	<29
Se	ND	<18
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<84
Pb	ND	<33

Spectrum



Notes

info: E2

Signature:

Serial Number: 841443 Time: 2021-12-02 08:14:23

Method : Geochem(3-Beam)

Daily ID:5

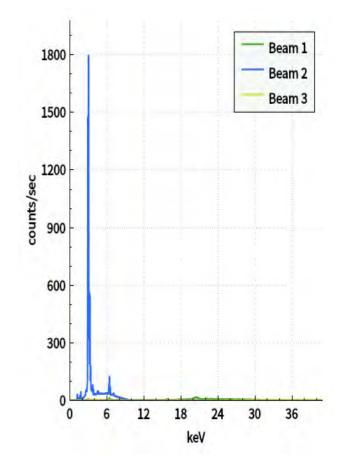
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	43	19
El	PPM	+/- 3σ
Cr	ND	<810
As	ND	<63
Se	ND	<47
Ag	ND	<0.1
Cd	ND	<260
Hg	ND	<220
Pb	ND	<77

Spectrum



Notes

info: E3

Signature:

Serial Number: 841443 Time: 2021-12-02 08:21:11

Method : Geochem(3-Beam)

Daily ID:6

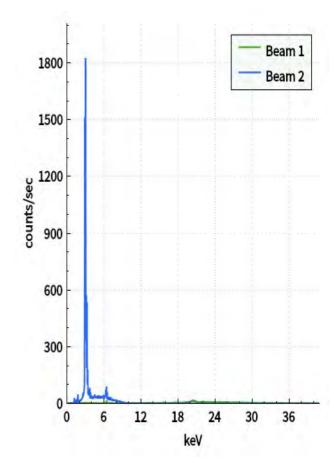
Elapsed Time : 12.3 s

Elapsed time: 12.3s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<870
As	ND	<75
Se	ND	<53
Ag	ND	<0.1
Cd	ND	<300
Ва	ND	<23000
Hg	ND	<240
Pb	ND	<93

Spectrum



Notes info: E4

Signature:

Serial Number: 841443 Time: 2021-12-02 08:22:00

Method : Geochem(3-Beam)

Daily ID:7

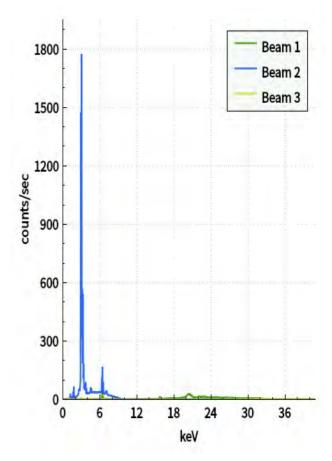
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	18	13
Ва	56	20
El	PPM	+/- 3σ
Cr	ND	<410
As	ND	<33
Ag	ND	<0.1
Cd	ND	<160
Hg	ND	<100
Pb	ND	<42

Spectrum



Notes

info: E4

Signature:

Serial Number: 841443 Time: 2021-12-02 08:28:01

Method : Geochem(3-Beam)

Daily ID:8

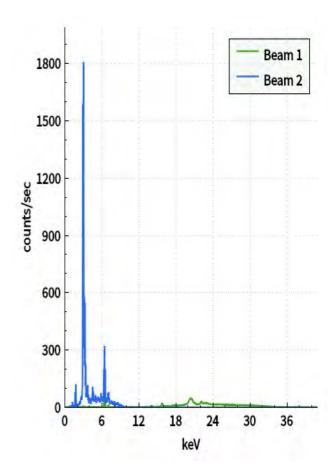
Elapsed Time : 10.8 s

Elapsed time: 10.8s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<21
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<110
Ва	ND	<7300
Hg	ND	<61
Pb	ND	<25

Spectrum



Notes info:

E5

Signature:

Serial Number: 841443 Time: 2021-12-02 08:28:28

Method : Geochem(3-Beam)

Daily ID:9

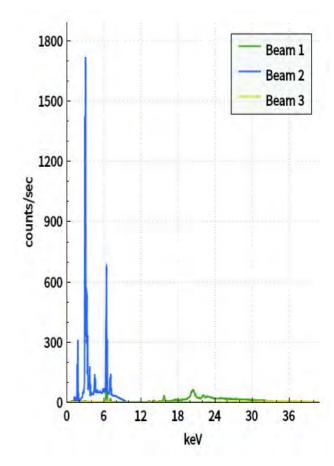
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	14	11
Ва	173	42
Pb	13	12
El	PPM	+/- 3σ
Cr	ND	<220
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<88
Hg	ND	<46

Spectrum



Notes

info: E5

Signature:

Serial Number: 841443 Time: 2021-12-02 08:43:55

Method : Geochem(3-Beam)

Daily ID:10

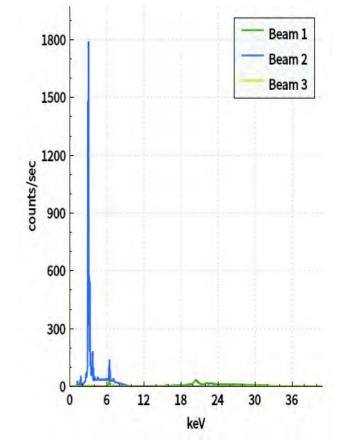
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	17	12
Ва	27	17
Pb	90	30
El	PPM	+/- 3σ
Cr	ND	<360
As	ND	<43
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<78

Spectrum



Notes

info: E6

Signature:

Serial Number: 841443 Time: 2021-12-02 08:49:40

Method : Geochem(3-Beam)

Daily ID:11

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	213	56
Pb	75	12
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<18
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<65
Hg	ND	<28

Spectrum

Notes

info: E7

Signature:

Serial Number: 841443 Time: 2021-12-02 08:54:58

Method : Geochem(3-Beam)

Daily ID:12

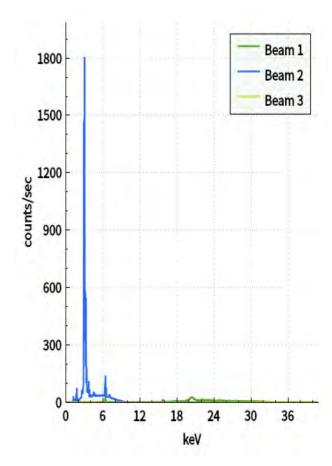
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	19	15
Ва	35	19
El	PPM	+/- 3σ
Cr	ND	<470
As	ND	<38
Ag	ND	<0.1
Cd	ND	<160
Hg	ND	<100
Pb	ND	<48

Spectrum



Notes

info: E8

Signature:

Serial Number: 841443 Time: 2021-12-02 09:00:32

Method : Geochem(3-Beam)

Daily ID:13

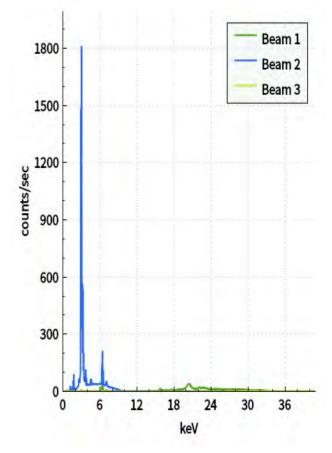
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	50	22
Pb	20	18
El	PPM	+/- 3σ
Cr	ND	<320
As	ND	<26
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<69

Spectrum



Notes

info: E9

Signature:

Serial Number: 841443 Time: 2021-12-02 09:07:59

Method : Geochem(3-Beam)

Daily ID:14

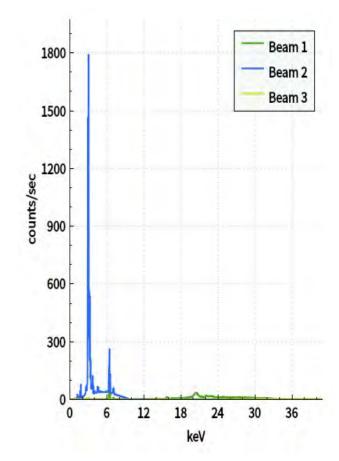
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	14	10
Ва	48	23
El	PPM	+/- 3σ
Cr	ND	<310
As	ND	<27
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<67
Pb	ND	<34

Spectrum



Notes

info: E10

Signature:

Serial Number: 841443 Time: 2021-12-02 09:12:54

Method : Geochem(3-Beam)

Daily ID:15

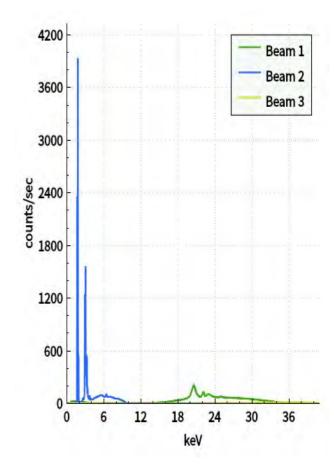
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	3	3
Ва	77	68
El	PPM	+/- 3σ
Cr	ND	<94
As	ND	<6
Ag	ND	<0.1
Cd	ND	<53
Hg	ND	<21
Pb	ND	<8

Spectrum



Notes

info: Blank 1

Signature:

Serial Number: 841443 Time: 2021-12-02 09:20:45

Method : Geochem(3-Beam)

Daily ID:16

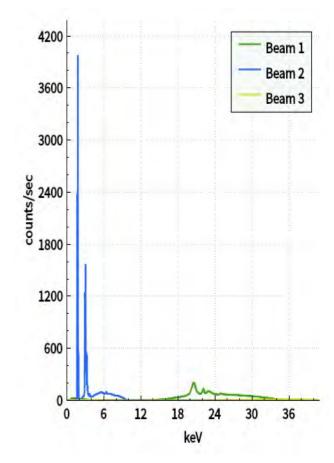
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Cd	34	27
Ва	87	68
El	PPM	+/- 3σ
Cr	ND	<90
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Hg	ND	<21
Pb	ND	<8

Spectrum



Notes

info: Blank 2

Signature:

Serial Number: 841443 Time: 2021-12-02 09:24:00

Chemistry

Method: Cal Check Daily ID: 17C

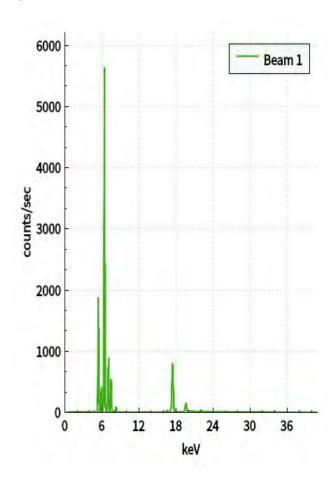
Elapsed Time : 15 s

Cal Check: Passed Resolution: 136 Count: 86640 Slope: 0.0199988 Offset: -0.014664

Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

### Spectrum



Signature:	Date:	

Serial Number: 841443 Time: 2021-12-02 09:26:35

Method : Geochem(3-Beam)

Daily ID:18

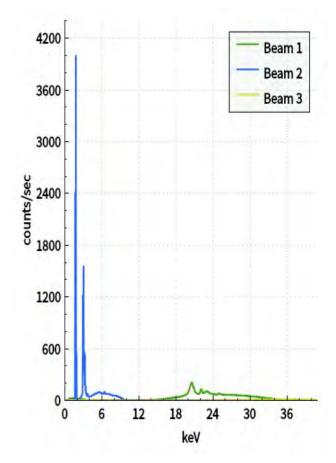
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	89	69
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<53
Hg	ND	<20
Pb	ND	<8

Spectrum



Notes

info: Blank 3

Signature: Date:

Serial Number: 841443 Time: 2021-12-02 09:32:35

Method : Geochem(3-Beam)

Daily ID:19

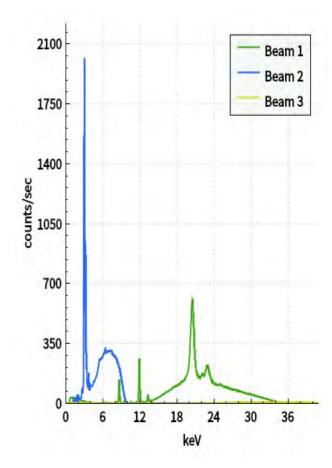
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	8	3
Se	3	2
Ва	49	33
Pb	16	3
El	PPM	+/- 3σ
Cr	ND	<41
Ag	ND	<0.1
Cd	ND	<26
Hg	ND	<11

Spectrum



Notes

info: Blank 4

Signature:

Serial Number: 841443 Time: 2021-12-02 10:03:01

Method : Geochem(3-Beam)

Daily ID:20

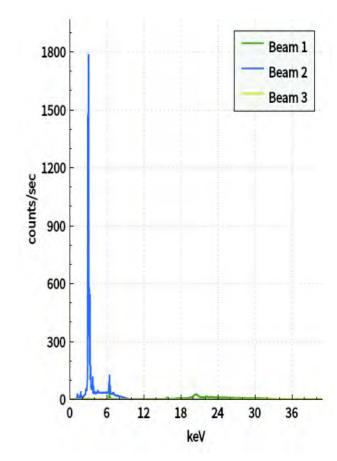
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	21	15
Pb	36	28
El	PPM	+/- 3σ
Cr	ND	<450
As	ND	<42
Se	ND	<25
Ag	ND	<0.1
Cd	ND	<160
Hg	ND	<120

Spectrum



Notes info:

E11

Signature:

Serial Number: 841443 Time: 2021-12-02 10:06:21

Method : Geochem(3-Beam)

Daily ID:21

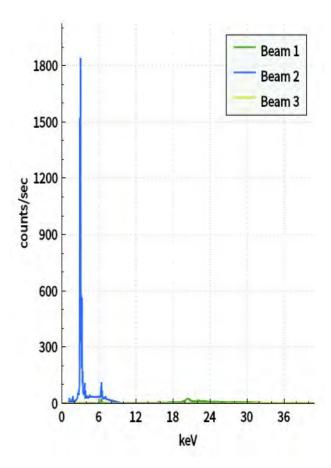
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	18	14
Ва	18	15
El	PPM	+/- 3σ
Cr	ND	<450
As	ND	<41
Ag	ND	<0.1
Cd	ND	<170
Hg	ND	<100
Pb	ND	<49

Spectrum



Notes

info: Dup. 1

Signature:

Serial Number: 841443 Time: 2021-12-02 10:09:37

Method : Geochem(3-Beam)

Daily ID:22

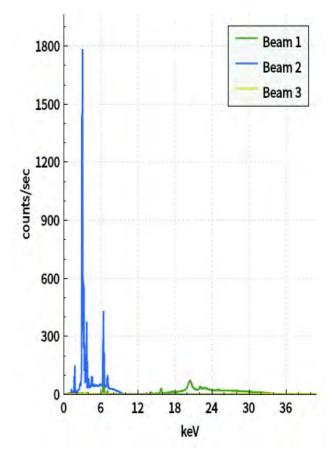
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	73	28
Pb	48	14
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<21
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<85
Hg	ND	<39

Spectrum



Notes

info: Dup. 2

Signature:

Serial Number: 841443 Time: 2021-12-02 10:12:52

Method : Geochem(3-Beam)

Daily ID: 23

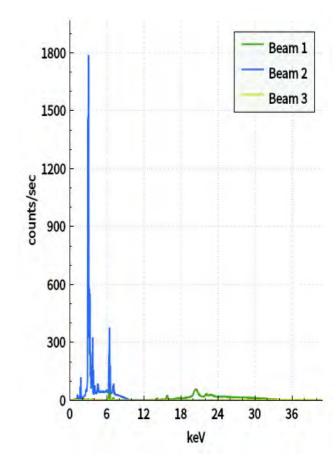
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	76	28
Pb	51	16
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<23
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<92
Hg	ND	<48

Spectrum



Notes

info: Dup. 3

Signature:

Serial Number: 841443 Time: 2021-12-02 10:15:47

Method : Geochem(3-Beam)

Daily ID:24

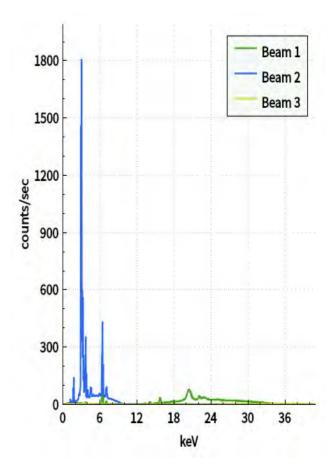
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	81	28
Pb	43	13
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<19
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<78
Hg	ND	<39

Spectrum



Notes

info: Dup. 4

Signature:

Serial Number: 841443 Time: 2021-12-02 10:18:50

Method : Geochem(3-Beam)

Daily ID: 25

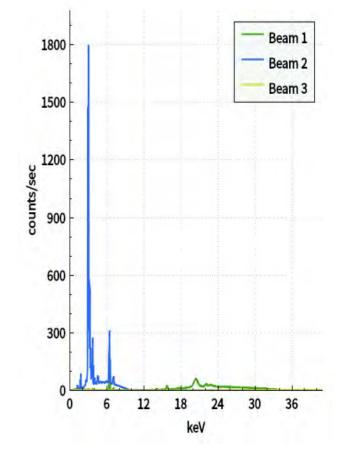
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	70	25
Pb	44	15
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<22
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<92
Hg	ND	<48

Spectrum



Notes

info: Dup. 5

Signature:

Serial Number: 841443 Time: 2021-12-02 10:23:01

Method : Geochem(3-Beam)

Daily ID: 26

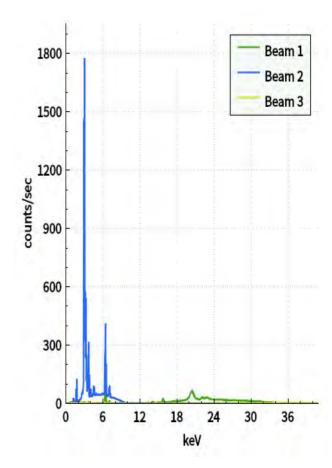
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	76	29
Pb	28	13
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<20
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<44

Spectrum



Notes

info: Dup. 6

Signature:

Serial Number: 841443 Time: 2021-12-02 10:25:45

Method : Geochem(3-Beam)

Daily ID: 27

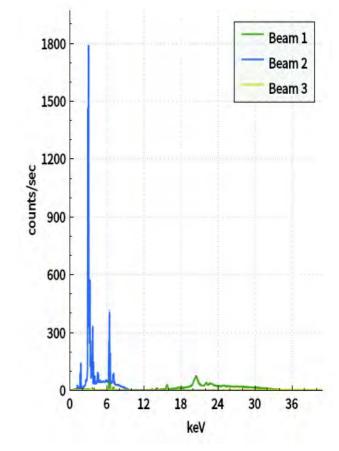
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	82	28
Pb	53	14
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<21
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<84
Hg	ND	<39

Spectrum



Notes

info: Dup. 7

Signature:

Serial Number: 841443 Time: 2021-12-02 10:33:01

Method : Geochem(3-Beam)

Daily ID:28

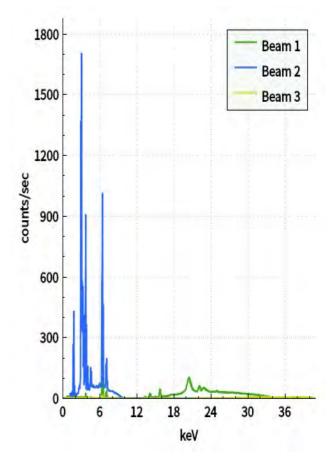
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	10	8
Ва	210	51
Pb	24	9
El	PPM	+/- 3σ
Cr	ND	<160
Se	ND	<8
Ag	ND	<0.1
Cd	ND	<67
Hg	ND	<30

Spectrum



Notes

info: E12

Signature:

Serial Number: 841443 Time: 2021-12-02 10:39:30

Method : Geochem(3-Beam)

Daily ID: 29

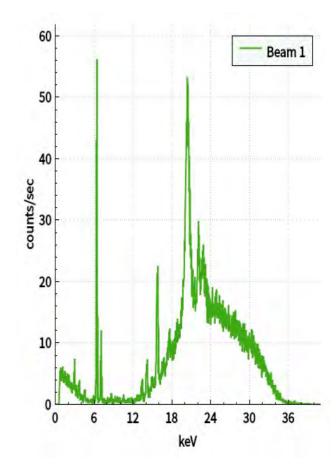
Elapsed Time : 10 s

Elapsed time: 10.0s

Chemistry

El	PPM	+/- 3σ
Se	15	8
Pb	20	15
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<23
Ag	ND	<0.1
Cd	ND	<110
Ва	ND	<7200
Hg	ND	<61

Spectrum



Notes

info: E13

Signature:

Serial Number: 841443 Time: 2021-12-02 10:39:58

Method : Geochem(3-Beam)

Daily ID:30

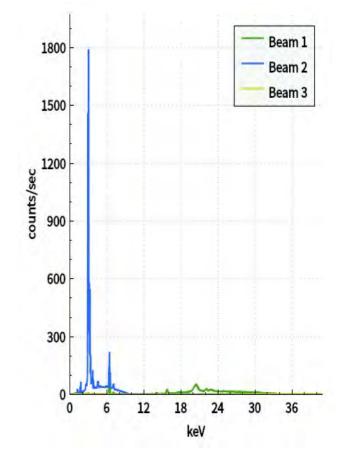
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	36	19
Pb	30	16
El	PPM	+/- 3σ
Cr	ND	<270
As	ND	<23
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<58

Spectrum



Notes

info: E13

Signature:

Serial Number: 841443 Time: 2021-12-02 10:46:59

Method : Geochem(3-Beam)

Daily ID:31

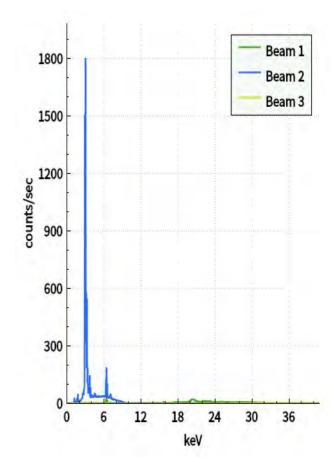
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	34	21
El	PPM	+/- 3σ
Cr	ND	<540
As	ND	<45
Se	ND	<32
Ag	ND	<0.1
Cd	ND	<180
Hg	ND	<140
Pb	ND	<56

Spectrum



Notes

info: E14

Signature:

Serial Number: 841443 Time: 2021-12-02 10:50:30

Method : Geochem(3-Beam)

Daily ID:32

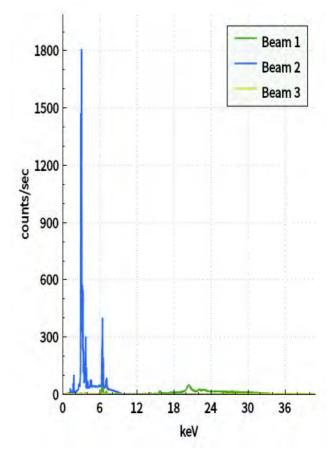
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	88	30
Pb	20	15
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<23
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<55

Spectrum



Notes

info: Dup. 8

Signature:

Serial Number: 841443 Time: 2021-12-02 10:58:32

Method : Geochem(3-Beam)

Daily ID:33

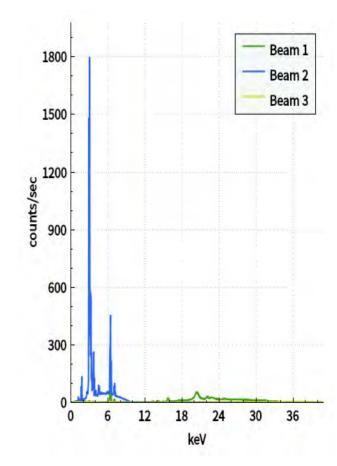
Elapsed Time : 46.6 s

Elapsed time: 46.6s

Chemistry

El	PPM	+/- 3σ
Ва	106	33
Pb	18	14
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<21
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<98
Hg	ND	<51

Spectrum



Notes

info: E15

Signature:

Serial Number: 841443 Time: 2021-12-02 10:59:36

Method : Geochem(3-Beam)

Daily ID:34

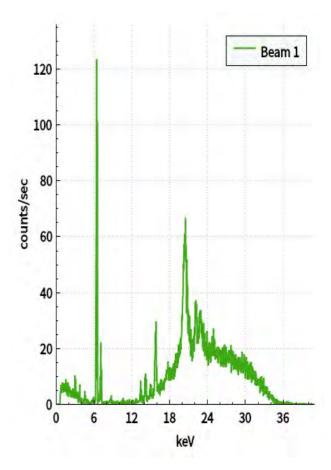
Elapsed Time : 4.62 s

Elapsed time: 4.6s

Chemistry

El	PPM	+/- 3σ
Se	14	8
El	PPM	+/- 3σ
Cr	ND	<320
As	ND	<28
Ag	ND	<0.1
Cd	ND	<140
Ва	ND	<9100
Hg	ND	<65
Pb	ND	<31

Spectrum



Notes

info: E15

Signature:

Serial Number: 841443 Time: 2021-12-02 11:00:06

Method : Geochem(3-Beam)

Daily ID:35

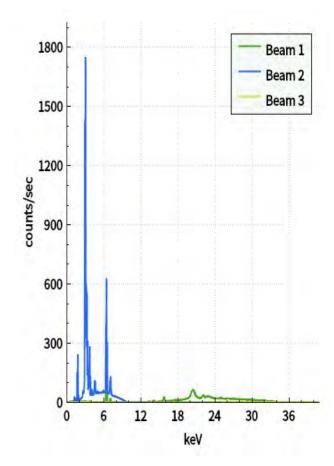
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	77	27
Pb	21	12
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<19
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<88
Hg	ND	<45

Spectrum



Notes

info: E15

Signature:

Serial Number: 841443 Time: 2021-12-02 11:58:03

Chemistry

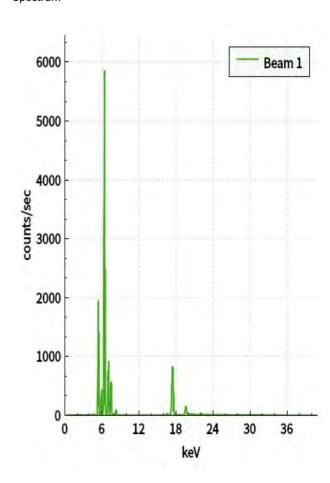
Method: Cal Check Daily ID: 36C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 89272
Slope: 0.0200012
Offset: -0.0149895
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	

Serial Number: 841443 Time: 2021-12-02:12:02:18

Method : Geochem(3-Beam)

Daily ID: 37

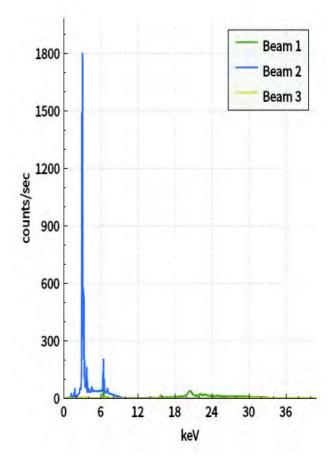
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
		,
Ва	51	21
Pb	48	21
El	PPM	+/- 3σ
Cr	ND	<300
As	ND	<31
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<72

Spectrum



Notes

info: E16

Signature:

Serial Number: 841443 Time: 2021-12-02 12:08:10

Method : Geochem(3-Beam)

Daily ID:38

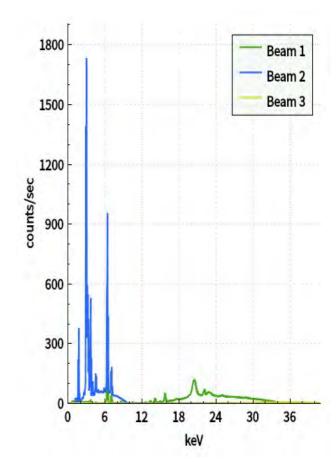
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	El PPM +/- 3σ	
As	13 10	
Ва	158 40	
Pb	65 11	
El	PPM	+/- 3σ
Cr	ND	<130
Se	ND	<7
Ag	ND <0.1	
Cd	ND <61	
Hg	ND <26	

Spectrum



Notes

info: E17

Signature:

Serial Number: 841443 Time: 2021-12-02 12:12:51

Method : Geochem(3-Beam)

Daily ID:39

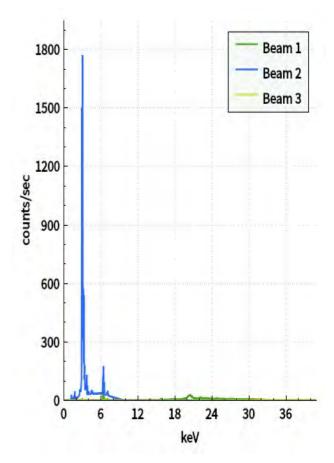
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	ΡΡΜ +/- 3σ	
Ва	33	17
Pb	48 30	
El	PPM +/- 3σ	
Cr	ND	<420
As	ND	<43
Se	ND	<23
Ag	ND <0.1	
Cd	ND <160	
Hg	ND <94	

Spectrum



Notes

info: E18

Signature:

Serial Number: 841443 Time: 2021-12-02 12:17:45

Method : Geochem(3-Beam)

Daily ID:40

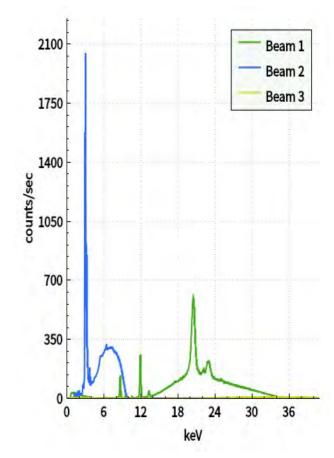
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	8	3
Se	3 2	
Pb	15	3
El	PPM	+/- 3σ
Cr	ND	<42
Ag	ND	<0.1
Cd	ND	<26
Ва	ND <1400	
Hg	ND <12	

Spectrum



Notes

info: Blank 9

Signature:

Serial Number: 841443 Time: 2021-12-02 12:23:46

Method : Geochem(3-Beam)

Daily ID:41

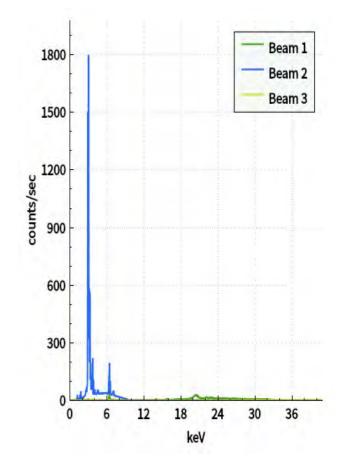
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	ΡΡΜ +/- 3σ	
Ва	41 20	
Pb	30 25	
El	PPM +/- 3σ	
Cr	ND	<480
As	ND	<35
Se	ND <22	
Ag	ND	<0.1
Cd	ND <150	
Hg	ND <110	

Spectrum



Notes

info: E19

Signature:

Serial Number: 841443 Time: 2021-12-02 12:30:05

Method : Geochem(3-Beam)

Daily ID:42

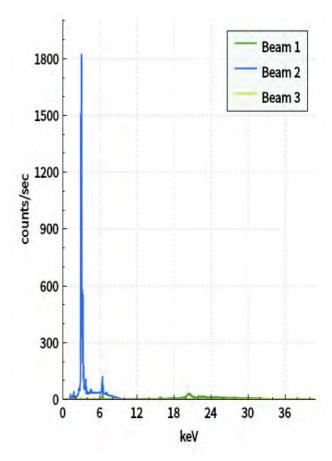
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	El PPM +/- 3σ	
Ва	39	17
Pb	78 30	
El	PPM	+/- 3σ
Cr	ND	<430
As	ND	<45
Se	ND	<22
Ag	ND <0.1	
Cd	ND <150	
Hg	ND <100	

Spectrum



Notes

info: E20

Signature:

Serial Number: 841443 Time: 2021-12-02: 12:44:43

Method : Geochem(3-Beam)

Daily ID:43

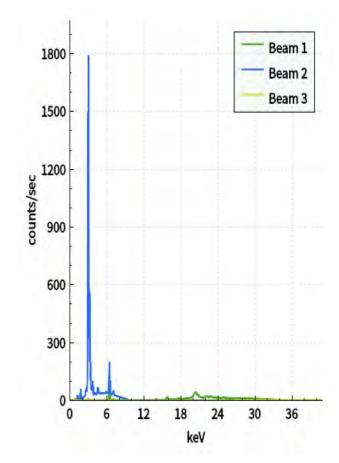
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	59 21	
Pb	43 20	
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<32
Se	ND	<16
Ag	ND <0.1	
Cd	ND <120	
Hg	ND <67	

Spectrum



Notes

info: E21

Signature:

Serial Number: 841443 Time: 2021-12-02 12:51:24

Method : Geochem(3-Beam)

Daily ID:44

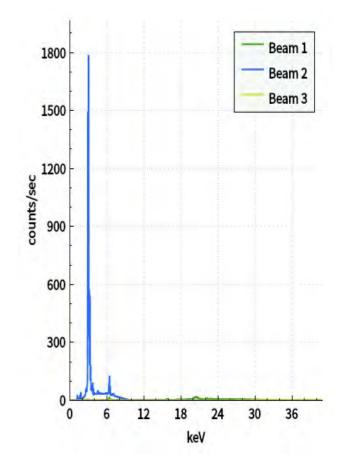
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	El PPM +/- 3σ	
Ва	34	18
El	PPM +/- 3σ	
Cr	ND	<860
As	ND	<58
Se	ND	<42
Ag	ND	<0.1
Cd	ND <240	
Hg	ND <180	
Pb	ND <73	

Spectrum



Notes

info: E22

Signature:

Serial Number: 841443 Time: 2021-12-02 12:57:03

Method : Geochem(3-Beam)

Daily ID: 45

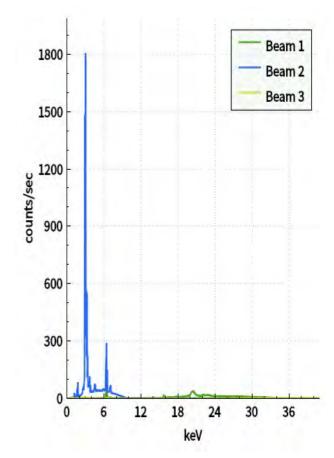
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	ΡΡΜ +/- 3σ	
Ва	62	22
Pb	22 20	
El	PPM +/- 3σ	
Cr	ND	<360
As	ND	<30
Se	ND	<19
Ag	ND <0.1	
Cd	ND <130	
Hg	ND <74	

Spectrum



Notes

info: E23

Signature:

Serial Number: 841443 Time: 2021-12-02 13:03:45

Method : Geochem(3-Beam)

Daily ID:46

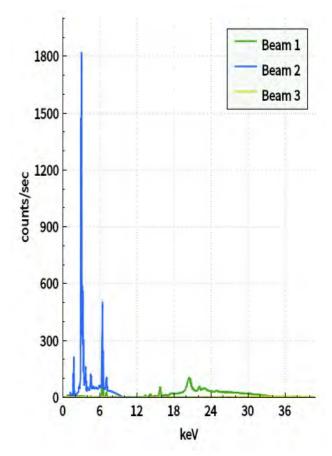
Elapsed Time : 36.1 s

Elapsed time: 36.1s

Chemistry

El	ΡΡΜ +/- 3σ	
Ва	138 57	
Pb	30 10	
El	PPM	+/- 3σ
Cr	ND <150	
As	ND	<15
Se	ND	<8
Ag	ND <0.1	
Cd	ND <67	
Hg	ND <29	

Spectrum



Notes

info: E24

Signature:

Serial Number: 841443 Time: 2021-12-02 13:04:46

Method : Geochem(3-Beam)

Daily ID: 47

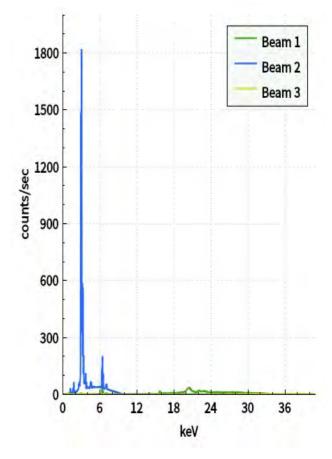
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	El PPM +/- 3σ	
Se	11	11
Ва	58 22	
Pb	23 20	
El	PPM	+/- 3σ
Cr	ND	<360
As	ND	<30
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<79

Spectrum



Notes

info: E24

Signature:

Serial Number: 841443 Time: 2021-12-02 13:11:08

Method : Geochem(3-Beam)

Daily ID:48

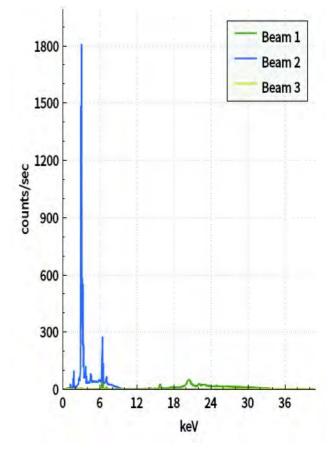
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	El PPM +/- 3σ	
Ва	79	24
Pb	33 16	
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<23
Se	ND	<13
Ag	ND	<0.1
Cd	ND <100	
Hg	ND <57	

Spectrum



Notes

info: E25

Signature:

Serial Number: 841443 Time: 2021-12-02 13:18:37

Chemistry

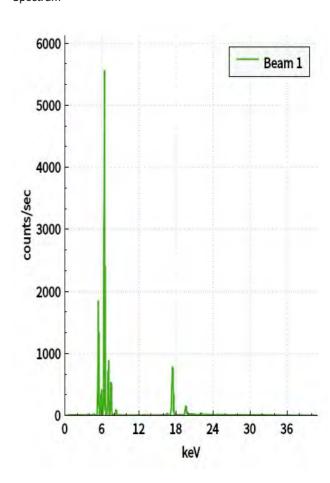
Method: Cal Check Daily ID: 49C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 85441
Slope: 0.0200017
Offset: -0.0154023
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	
oignature.	Dutc.	

Serial Number: 841443 Time: 2021-12-02 13:24:53

Method : Geochem(3-Beam)

Daily ID:50

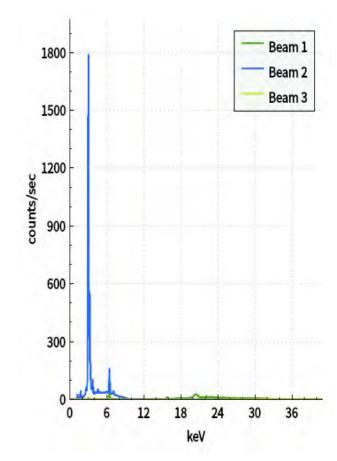
Elapsed Time : 48.7 s

Elapsed time: 48.7s

Chemistry

El	PPM	+/- 3σ
Ва	48	19
Pb	29	28
El	PPM	+/- 3σ
Cr	ND	<450
As	ND	<40
Se	ND	<29
Ag	ND	<0.1
Cd	ND	<170
Hg	ND	<120

Spectrum



Notes

info: E26

Signature:

Serial Number: 841443 Time: 2021-12-02 13:25:58

Method : Geochem(3-Beam)

Daily ID:51

Elapsed Time : 41.8 s

Elapsed time: 41.8s

Chemistry

El	PPM	+/- 3σ
Ва	52	27
El	PPM	+/- 3σ
Cr	ND	<510
As	ND	<44
Se	ND	<28
Ag	ND	<0.1
Cd	ND	<180
Hg	ND	<110
Pb	ND	<49

Spectrum

Notes

info: E26

Signature:

Serial Number: 841443 Time: 2021-12-02 13:32:24

Method : Geochem(3-Beam)

Daily ID:52

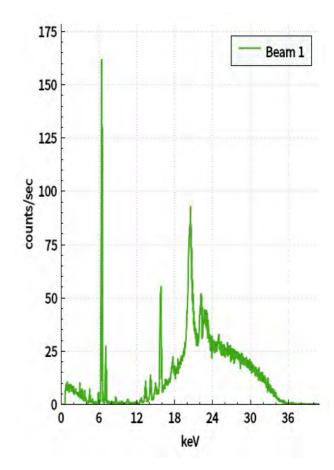
Elapsed Time : 9.78 s

Elapsed time: 9.8s

Chemistry

El	PPM	+/- 3σ
Pb	31	11
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<16
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<75
Ва	ND	<5100
Hg	ND	<34

Spectrum



Notes

info: E27

Signature:

Serial Number: 841443 Time: 2021-12-02 13:32:48

Method : Geochem(3-Beam)

Daily ID:53

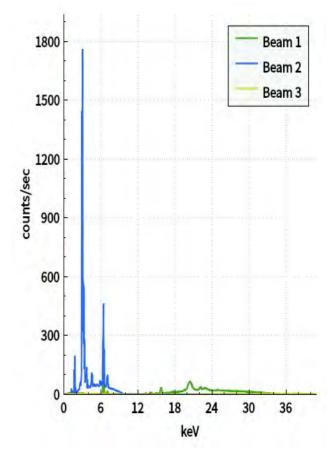
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	7	6
Ва	112	32
Pb	26	13
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<18
Ag	ND	<0.1
Cd	ND	<87
Hg	ND	<45

Spectrum



Notes

info: E27

Signature:

Serial Number: 841443 Time: 2021-12-02 13:41:12

Method : Geochem(3-Beam)

Daily ID:54

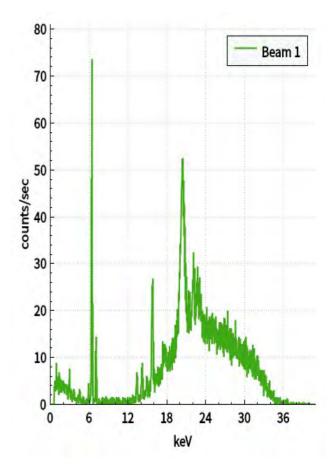
Elapsed Time : 4.21 s

## Elapsed time: 4.2s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<350
As	ND	<32
Se	ND	<19
Ag	ND	<0.1
Cd	ND	<160
Ва	ND	<10000
Hg	ND	<77
Pb	ND	<40

Spectrum



Notes

info: E28

Signature:

Serial Number: 841443 Time: 2021-12-02 13:41:29

Method : Geochem(3-Beam)

Daily ID:55

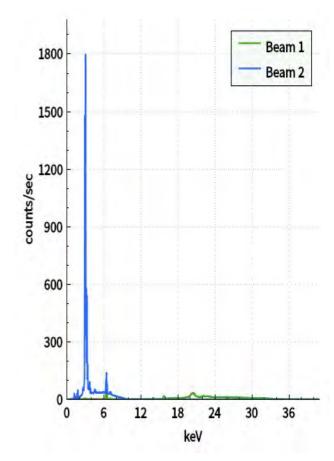
Elapsed Time : 26.7 s

Elapsed time: 26.7s

Chemistry

El	PPM	+/- 3σ
Se	15	11
El	PPM	+/- 3σ
Cr	ND	<330
As	ND	<29
Ag	ND	<0.1
Cd	ND	<140
Ва	ND	<9000
Hg	ND	<73
Pb	ND	<35

Spectrum



Notes

info: E28

Signature:

Serial Number: 841443 Time: 2021-12-02 13:42:09

Method : Geochem(3-Beam)

Daily ID:56

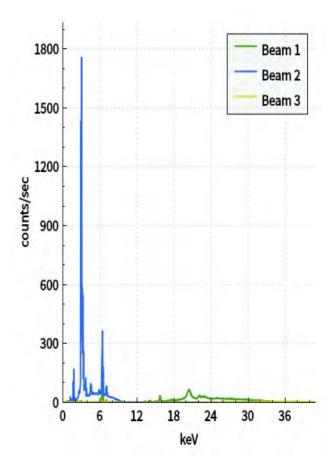
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	7	6
Ва	124	33
Pb	21	13
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<19
Ag	ND	<0.1
Cd	ND	<90
Hg	ND	<44

Spectrum



Notes

info: E28

Signature:

Serial Number: 841443 Time: 2021-12-02: 13:49:43

Method : Geochem(3-Beam)

Daily ID:57

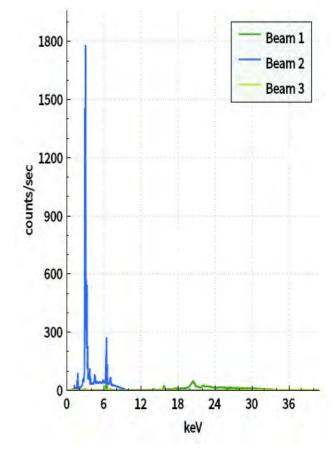
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	83	29
Pb	17	16
El	PPM	+/- 3σ
Cr	ND	<270
As	ND	<23
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<58

Spectrum



Notes

info: E29

Signature:

Serial Number: 841443 Time: 2021-12-02 14:06:32

Method : Geochem(3-Beam)

Daily ID:58

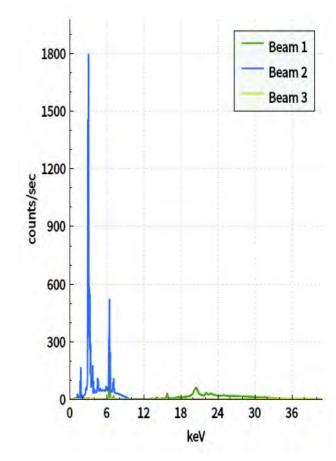
Elapsed Time : 43.7 s

Elapsed time: 43.7s

Chemistry

El	PPM	+/- 3σ
As	11	11
Ва	118	40
Pb	13	12
El	PPM	+/- 3σ
Cr	ND	<220
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<91
Hg	ND	<46

Spectrum



Notes

info: E30

Signature:

Serial Number: 841443 Time: 2021-12-02 14:07:46

Method : Geochem(3-Beam)

Daily ID:59

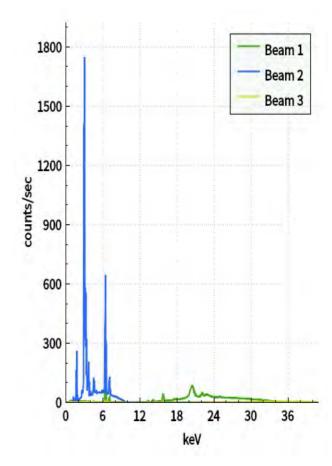
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	5	5
Ва	115	34
Pb	17	10
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<15
Ag	ND	<0.1
Cd	ND	<74
Hg	ND	<33

Spectrum



Notes

info: E30

Signature:

Serial Number: 841443 Time: 2021-12-02 14:13:17

Method : Geochem(3-Beam)

Daily ID:60

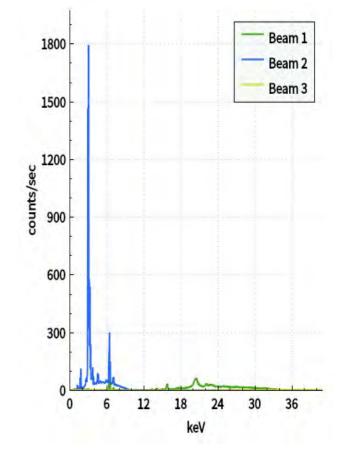
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	78	29
Pb	23	13
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<20
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<92
Hg	ND	<48

Spectrum



Notes

info: E31

Signature:

Serial Number: 841443 Time: 2021-12-02 14:19:11

Method : Geochem(3-Beam)

Daily ID:61

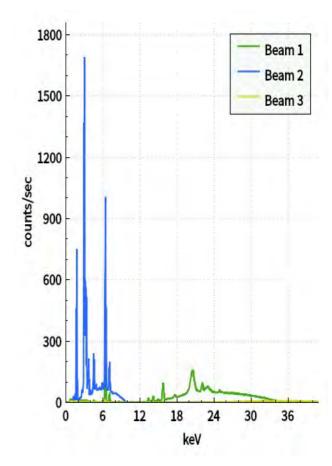
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	6	6
Ва	280	51
Pb	21	7
El	PPM	+/- 3σ
Cr	ND	<120
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<53
Hg	ND	<22

Spectrum



Notes

info: E32

Signature:

Serial Number: 841443 Time: 2021-12-02 14:35:22

Method : Geochem(3-Beam)

Daily ID:62

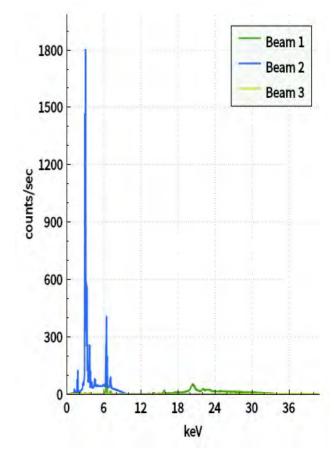
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	80	28
Pb	90	21
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<30
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<48

Spectrum



Notes

info: E33

Signature:

Serial Number: 841443 Time: 2021-12-02 14:40:58

Method : Geochem(3-Beam)

Daily ID:63

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	71	26
Pb	206	28
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<40
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<52

Spectrum

Notes

info: E34

Signature:

Serial Number: 841443 Time: 2021-12-02 14:47:45

Method : Geochem(3-Beam)

Daily ID:64

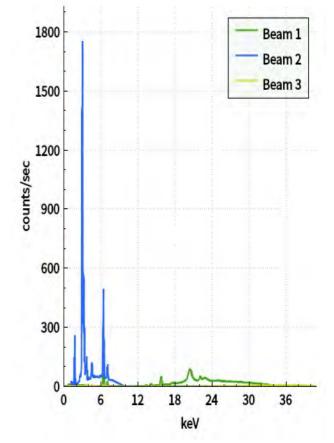
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	170	38
Pb	30	11
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<16
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<74
Hg	ND	<36

Spectrum



Notes

info: E35

Signature:

Serial Number: 841443 Time: 2021-12-02 14:53:28

Method : Geochem(3-Beam)

Daily ID:65

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	75	26
Pb	74	18
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<26
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<93
Hg	ND	<50

Spectrum

Notes

info: E36

Signature:

Serial Number: 841443 Time: 2021-12-02 14:57:07

Method : Geochem(3-Beam)

Daily ID:66

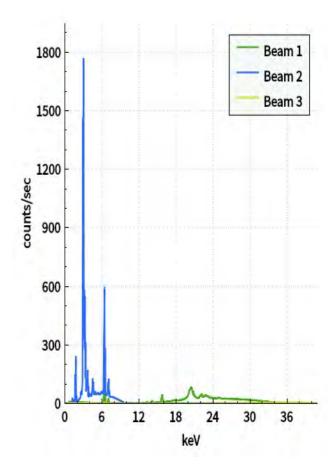
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	5	5
Ва	123	34
Pb	61	14
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<21
Ag	ND	<0.1
Cd	ND	<77
Hg	ND	<37

Spectrum



Notes

info: Dup. 9

Signature:

Serial Number: 841443 Time: 2021-12-02 15:09:40

Method : Geochem(3-Beam)

Chemistry

Elapsed Time : 50 s

Daily ID: 67

Elapsed time: 50.0s

El	PPM	+/- 3σ
Se	3	3
Ва	69	67
El	PPM	+/- 3σ
Cr	ND	<93
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Hg	ND	<21
Pb	ND	<8

Spectrum

Beam 1

Notes

info: Blank 10

Signature:

Serial Number: 841443 Time: 2021-12-02 15:11:34

Method : Geochem(3-Beam)

Daily ID:68

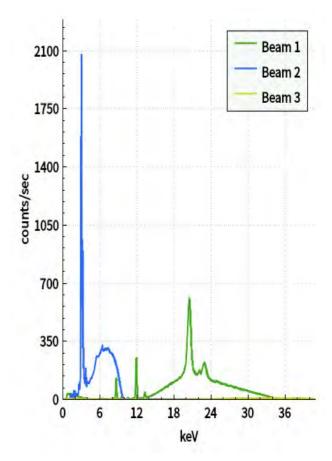
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	7	3
Se	2	2
Ва	35	33
Pb	16	3
El	PPM	+/- 3σ
Cr	ND	<42
Ag	ND	<0.1
Cd	ND	<26
Hg	ND	<11

Spectrum



Notes

info: Blank 11

Signature:

Serial Number: 841443 Time: 2021-12-02 15:18:07

Method : Geochem(3-Beam)

Daily ID:69

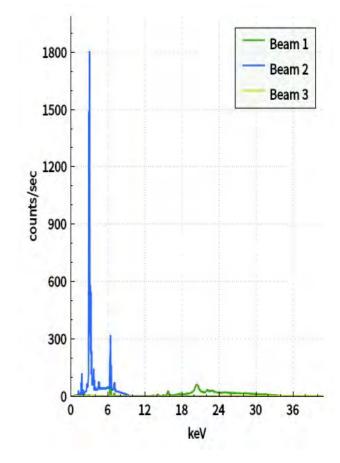
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	66	25
Pb	21	13
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<18
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<90
Hg	ND	<46

Spectrum



Notes

info: E37

Signature:

Serial Number: 841443 Time: 2021-12-02 15:24:36

Method : Geochem(3-Beam)

Daily ID:70

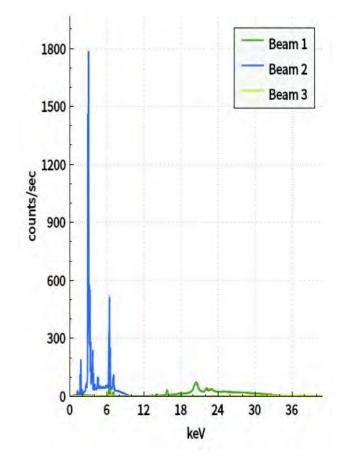
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	120	34
Pb	22	11
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<17
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<80
Hg	ND	<38

Spectrum



Notes

info: E38

Signature:

Serial Number: 841443 Time: 2021-12-02 15:28:46

Method : Geochem(3-Beam)

Daily ID:71

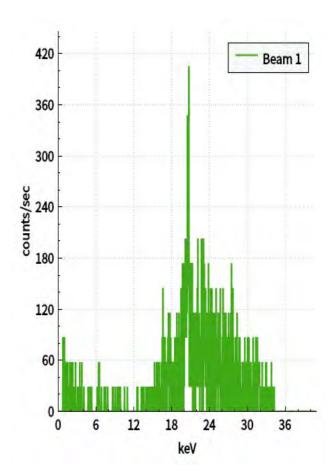
Elapsed Time : 0.0766 s

## Elapsed time: 0.1s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<1300
As	ND	<120
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<610
Ва	ND	<62000
Hg	ND	<130
Pb	ND	<180

Spectrum



Notes

info: E38

Signature:

Serial Number: 841443 Time: 2021-12-02 15:31:48

Method : Geochem(3-Beam)

Daily ID:72

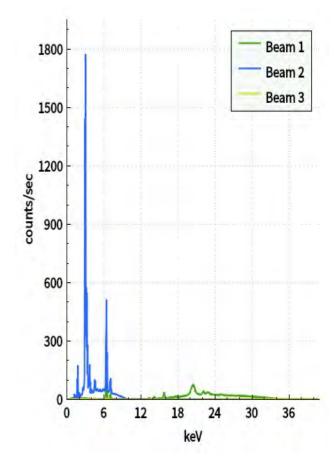
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	94	29
Pb	31	12
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<18
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<78
Hg	ND	<40

Spectrum



Notes

info: E39

Signature:

Serial Number: 841443 Time: 2021-12-02 15:38:07

Method : Geochem(3-Beam)

Daily ID:73

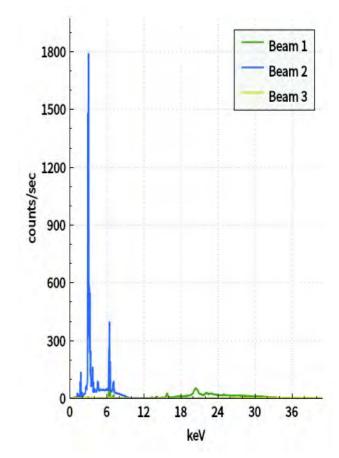
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	101	30
Pb	31	15
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<22
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<96
Hg	ND	<50

Spectrum



Notes

info: E40

Signature:

Serial Number: 841443 Time: 2021-12-02 15:43:41

Method : Geochem(3-Beam)

Daily ID:74

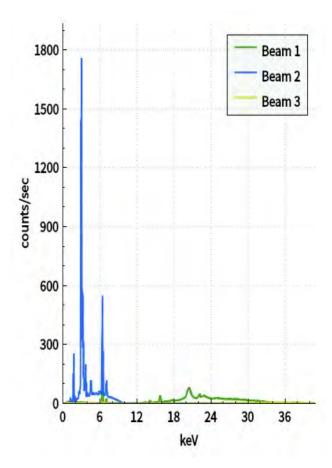
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	142	36
Pb	51	13
El	PPM	+/- 3σ
Cr	ND	<180
As	ND	<19
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<77
Hg	ND	<41

Spectrum



Notes info:

E41

Signature:

Serial Number: 841443 Time: 2021-12-02 15:56:45

Method : Geochem(3-Beam)

Daily ID:75

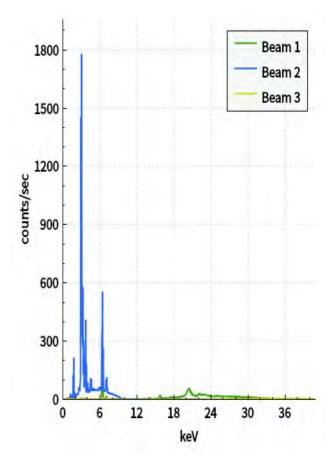
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	131	38
Pb	50	17
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<24
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<55

Spectrum



Notes

info: E42

Signature:

Serial Number: 841443 Time: 2021-12-02 16:01:27

Method : Geochem(3-Beam)

Daily ID:76

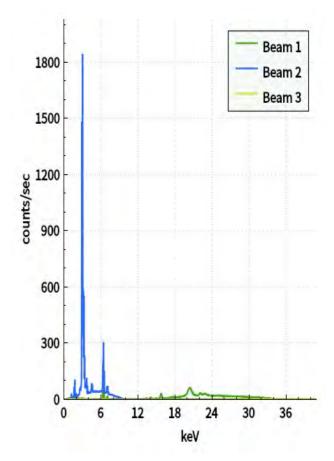
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	69	24
Pb	29	14
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<20
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<91
Hg	ND	<45

Spectrum



Notes

info: E43

Signature:

Serial Number: 841443 Time: 2021-12-02 16:07:50

Method : Geochem(3-Beam)

Daily ID:77

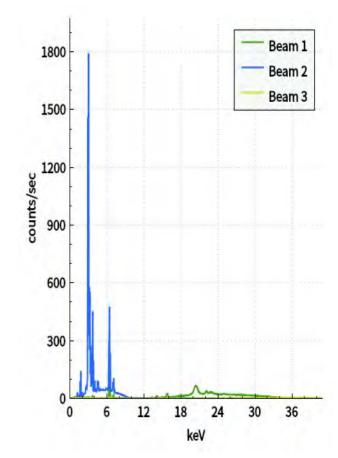
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	60	31
Pb	31	13
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<19
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<88
Hg	ND	<47

Spectrum



Notes

info: E44

Signature:

Serial Number: 841443 Time: 2021-12-02 16:13:14

Chemistry

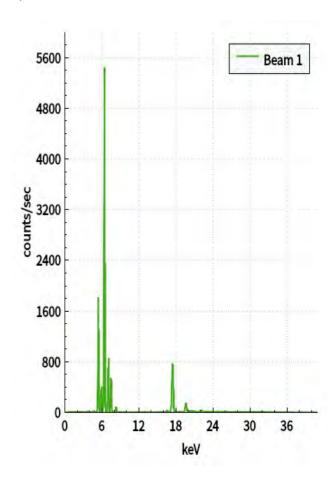
Method: Cal Check Daily ID: 78C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 83278
Slope: 0.0199995
Offset: -0.0149676
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	 Date:	
•		

Serial Number: 841443 Time: 2021-12-03 07:24:14

Chemistry

Cal Check: Passed
Resolution: 136
Count: 86910
Slope: 0.0200026

Offset: -0.0151887

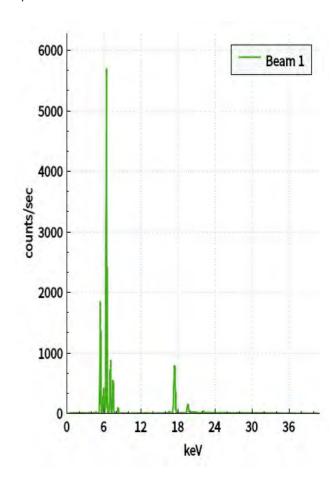
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

Method: Cal Check Daily ID: 1C

Elapsed Time : 15 s

## Spectrum



Signature:	Date:	

Serial Number: 841443 Time: 2021-12-03 07:27:43

Method : Geochem(3-Beam)

Daily ID:2

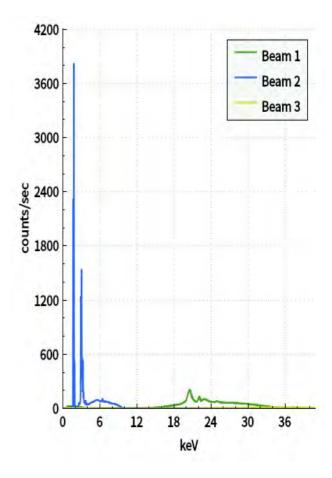
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	4	3
Ва	68	68
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Hg	ND	<20
Pb	ND	<8

Spectrum



Notes

info: Blank 12

Signature: \_\_\_\_\_ Date: \_\_\_\_

ate·

Serial Number: 841443 Time: 2021-12-03 07:47:24

Method : Geochem(3-Beam)

Daily ID:3

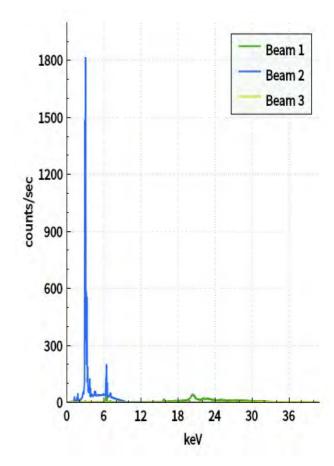
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	36	18
Pb	89	24
El	PPM	+/- 3σ
Cr	ND	<300
As	ND	<33
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<62

Spectrum



Notes

info: E45

Signature:

Serial Number: 841443 Time: 2021-12-03 07:55:59

Method : Geochem(3-Beam)

Daily ID:4

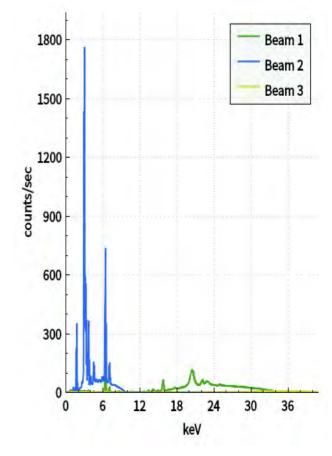
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	164	39
Pb	65	11
El	PPM	+/- 3σ
Cr	ND	<130
As	ND	<17
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<63
Hg	ND	<28

Spectrum



Notes

info: E46

Signature:

Serial Number: 841443 Time: 2021-12-03 08:06:44

Method : Geochem(3-Beam)

Daily ID:5

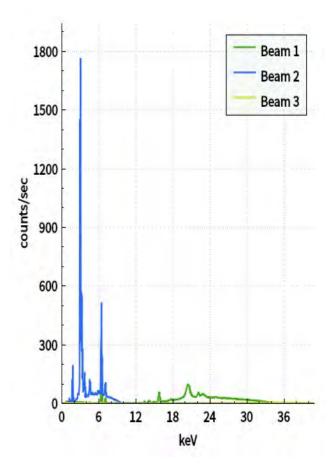
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	116	30
Pb	40	11
El	PPM	+/- 3σ
Cr	ND	<150
As	ND	<16
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<70
Hg	ND	<30

Spectrum



Notes

info: E47

Signature:

Serial Number: 841443 Time: 2021-12-03 08:10:27

Method : Geochem(3-Beam)

Daily ID:6

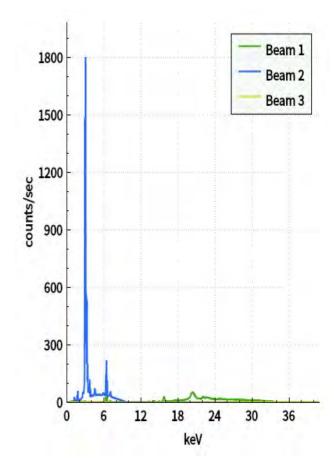
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	49	21
Pb	28	15
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<22
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<49

Spectrum



Notes

info: Test E47S

Signature:

Serial Number: 841443 Time: 2021-12-03 08:17:18

Method : Geochem(3-Beam)

Daily ID:7

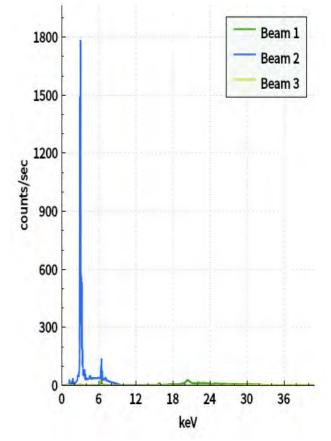
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	38	18
Pb	31	27
El	PPM	+/- 3σ
Cr	ND	<440
As	ND	<40
Se	ND	<24
Ag	ND	<0.1
Cd	ND	<160
Hg	ND	<90

Spectrum



Notes

info: E48

Signature:

Serial Number: 841443 Time: 2021-12-03 08:23:00

Method : Geochem(3-Beam)

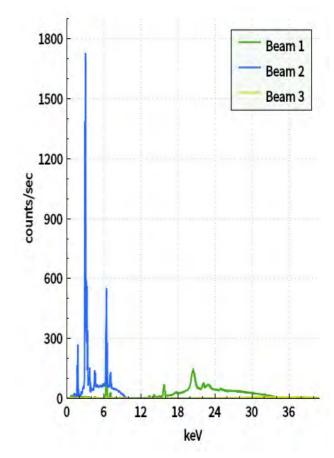
Chemistry Daily ID: 8

Elapsed Time : 50 s

Elapsed time: 50.0s

El	PPM	+/- 3σ
As	8	6
Ва	165	38
Pb	16	7
El	PPM	+/- 3σ
Cr	ND	<120
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<57
Hg	ND	<23

Spectrum



Notes

info: E49

Signature:

Serial Number: 841443 Time: 2021-12-03 08:37:51

Method : Geochem(3-Beam)

Daily ID:9

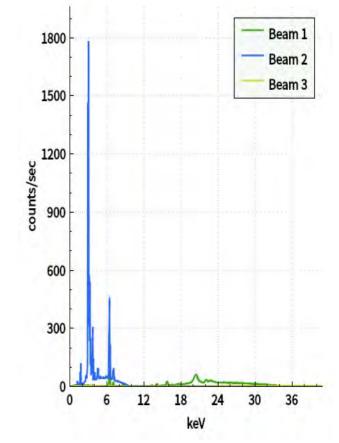
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	115	32
Pb	67	17
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<25
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<43

Spectrum



Notes

info: E50

Signature:

Serial Number: 841443 Time: 2021-12-03 08:43:17

Method : Geochem(3-Beam)

Daily ID:10

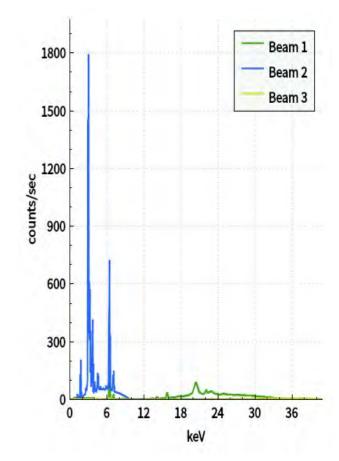
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	144	38
Pb	38	12
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<18
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<74
Hg	ND	<38

Spectrum



Notes info:

Signature:

E51

Serial Number: 841443 Time: 2021-12-03 08:47:12

Method : Geochem(3-Beam)

Daily ID:11

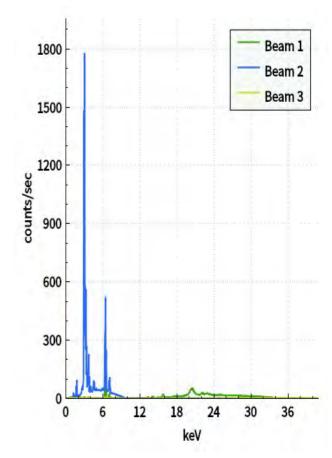
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	108	32
Pb	52	18
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<25
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<53

Spectrum



Notes

info: E52

Signature:

Serial Number: 841443 Time: 2021-12-03 08:53:04

Method : Geochem(3-Beam)

Daily ID:12

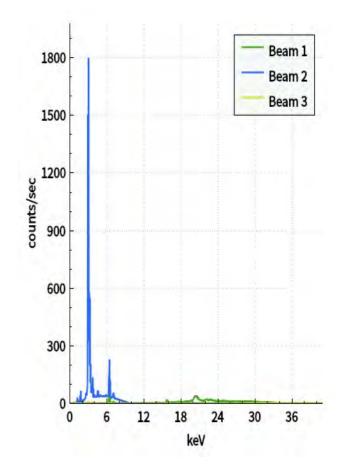
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	53	22
Pb	90	25
El	PPM	+/- 3σ
Cr	ND	<300
As	ND	<39
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<69

Spectrum



Notes info:

E53

Signature:

Serial Number: 841443 Time: 2021-12-03 09:15:52

Method : Geochem(3-Beam)

Daily ID:13

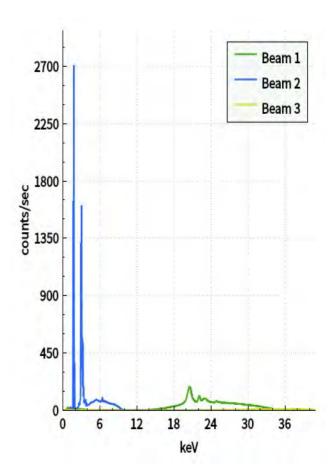
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<97
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<55
Ва	ND	<1500
Hg	ND	<22
Pb	ND	<8

Spectrum



Notes

info: Blank 13

Signature:

Serial Number: 841443 Time: 2021-12-03 09:21:12

Method : Geochem(3-Beam)

Daily ID:14

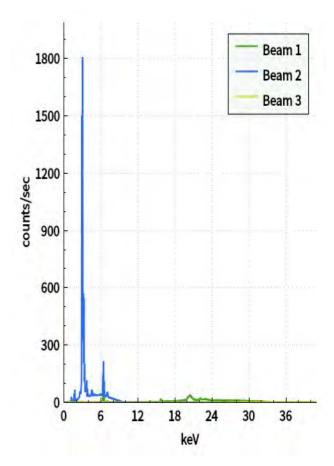
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ag	3	2
Ва	57	22
Pb	59	24
El	PPM	+/- 3σ
Cr	ND	<300
As	ND	<35
Se	ND	<18
Cd	ND	<130
Hg	ND	<74

Spectrum



Notes

info: E54

Signature:

Serial Number: 841443 Time: 2021-12-03 09:28:02

Method : Geochem(3-Beam)

Daily ID:15

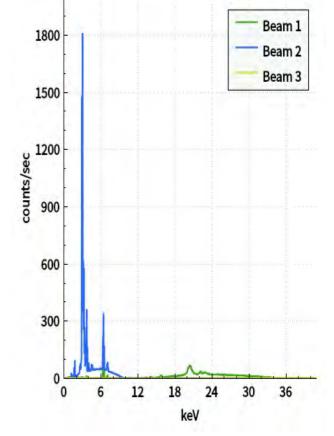
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	70	26
Pb	90	18
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<26
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<86
Hg	ND	<40

Spectrum



Notes info: E55

Signature:

Serial Number: 841443 Time: 2021-12-03 09:35:39

Method : Geochem(3-Beam)

Daily ID:16

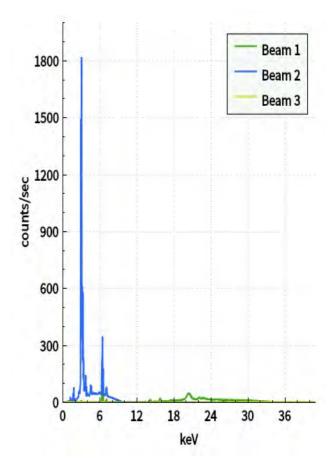
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ag	3	3
Ва	112	27
Pb	114	23
El	PPM	+/- 3σ
Cr	ND	<290
As	ND	<35
Se	ND	<14
Cd	ND	<100
Hg	ND	<55

Spectrum



Notes

info: E56

Signature:

Serial Number: 841443 Time: 2021-12-03 09:39:21

Method : Geochem(3-Beam)

Daily ID: 17

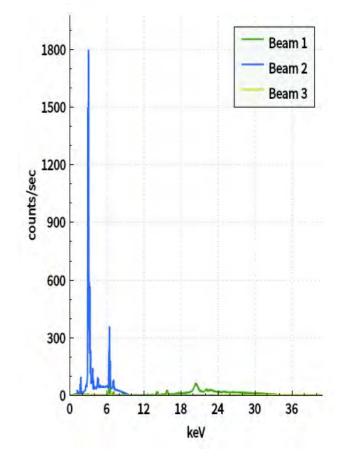
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	80	23
Pb	123	21
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<31
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<45

Spectrum



Notes

info: Dup. 10

Signature:

Serial Number: 841443 Time: 2021-12-03 09:41:47

Method : Geochem(3-Beam)

Daily ID:18

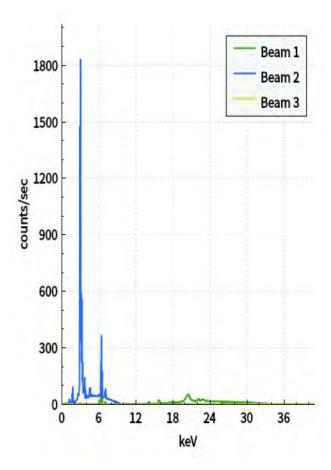
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ag	4	3
Ва	83	25
Pb	128	24
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<35
Se	ND	<13
Cd	ND	<100
Hg	ND	<55

Spectrum



Notes

info: Dup. 11

Signature:

Serial Number: 841443 Time: 2021-12-03 09:44:29

Method: Geochem(3-Beam)

Daily ID:19

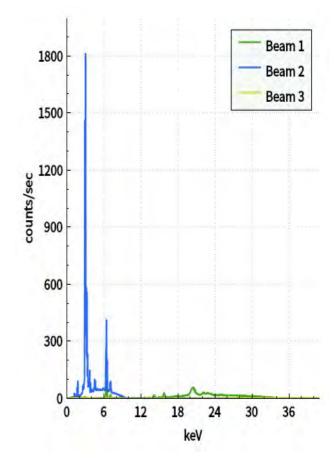
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	86	26
Pb	116	21
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<31
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<90
Hg	ND	<51

Spectrum



Notes

info: Dup. 12

Signature:

Serial Number: 841443 Time: 2021-12-03 09:46:46

Method : Geochem(3-Beam)

Daily ID:20

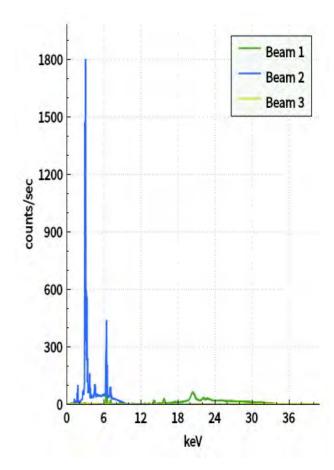
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	99	25
Pb	127	20
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<30
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<85
Hg	ND	<46

Spectrum



Notes

info: Dup. 13

Signature:

Serial Number: 841443 Time: 2021-12-03 09:50:12

Method : Geochem(3-Beam)

Daily ID:21

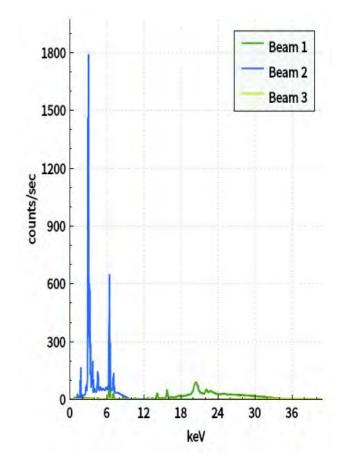
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	158	32
Pb	131	17
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<24
Se	ND	<8
Ag	ND	<0.1
Cd	ND	<68
Hg	ND	<34

Spectrum



Notes

info: Dup. 14

Signature:

Serial Number: 841443 Time: 2021-12-03 09:52:48

Method : Geochem(3-Beam)

Daily ID:22

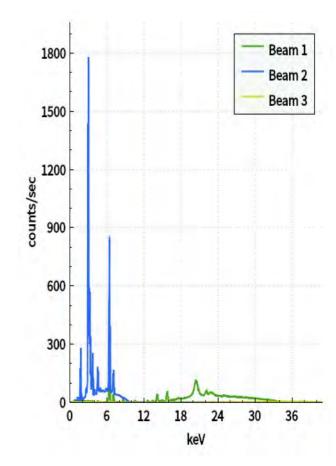
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	15	14
Ва	161	36
Pb	140	16
El	PPM	+/- 3σ
Cr	ND	<140
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<62
Hg	ND	<30

Spectrum



Notes

info: Dup. 15

Signature:

Serial Number: 841443 Time: 2021-12-03 10:00:19

Method : Geochem(3-Beam)

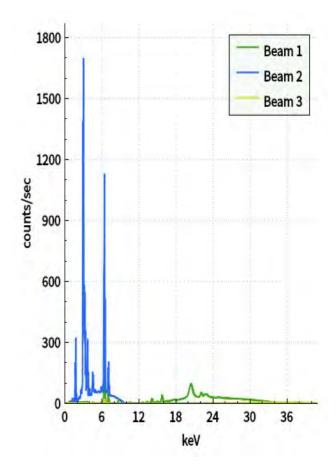
Chemistry Daily ID: 23

Elapsed Time : 50 s

Elapsed time: 50.0s

El	PPM	+/- 3σ
Ва	172	44
Pb	115	16
El	PPM	+/- 3σ
Cr	ND	<160
As	ND	<21
Se	ND	<8
Ag	ND	<0.1
Cd	ND	<65
Hg	ND	<33

Spectrum



Notes

info: E57

Signature:

Serial Number: 841443 Time: 2021-12-03 10:06:14

Method : Geochem(3-Beam)

Daily ID:24

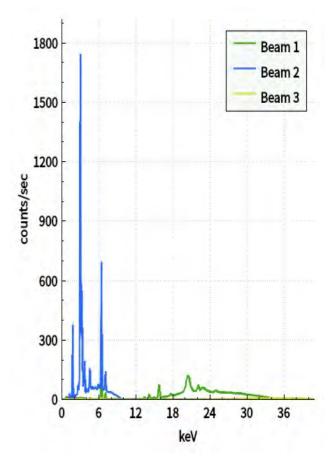
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	162	42
Pb	24	8
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<13
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<61
Hg	ND	<28

Spectrum



Notes

info: E58

Signature:

Serial Number: 841443 Time: 2021-12-03 10:21:10

Method : Geochem(3-Beam)

Daily ID: 25

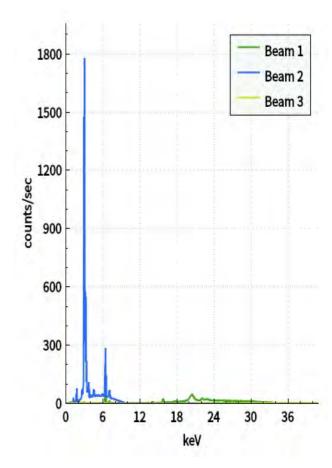
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	10	8
Ва	58	24
Pb	36	18
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<27
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<60

Spectrum



Notes

info: E59

Signature:

Serial Number: 841443 Time: 2021-12-03 10:27:01

Method : Geochem(3-Beam)

Daily ID: 26

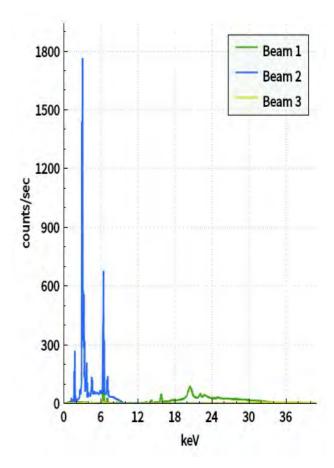
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	156	37
Pb	55	13
El	PPM	+/- 3σ
Cr	ND	<160
As	ND	<19
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<73
Hg	ND	<34

Spectrum



Notes

info: E60

Signature:

Serial Number: 841443 Time: 2021-12-03 10:33:00

Method : Geochem(3-Beam)

Daily ID: 27

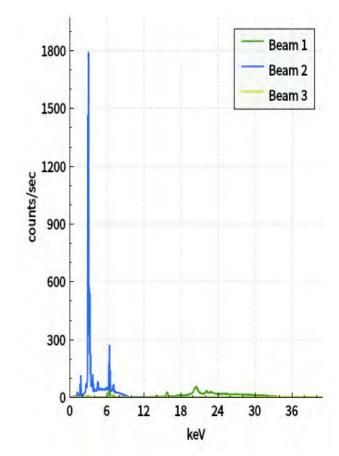
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	85	25
Pb	41	16
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<24
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<57

Spectrum



Notes

info: E61

Signature:

Serial Number: 841443 Time: 2021-12-03 10:39:11

Method : Geochem(3-Beam)

Daily ID:28

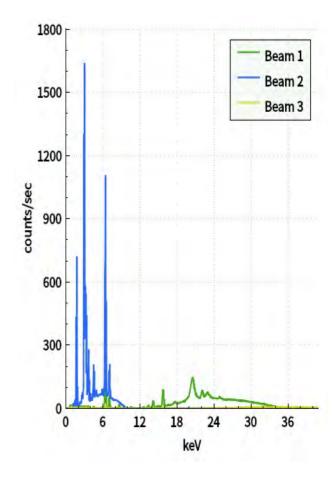
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	256	52
Pb	73	11
El	PPM	+/- 3σ
Cr	ND	<130
As	ND	<15
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<57
Hg	ND	<25

Spectrum



Notes

info: E62

Signature:

Serial Number: 841443 Time: 2021-12-03 10:50:58

Method : Geochem(3-Beam)

Daily ID: 29

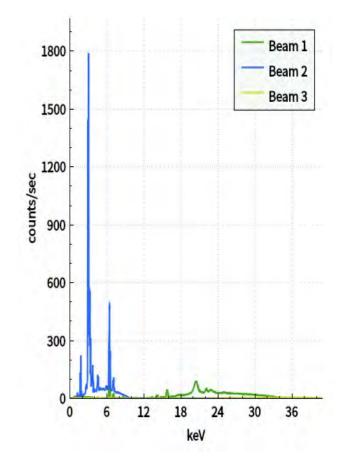
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	5	5
Ва	146	33
Pb	61	13
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<20
Ag	ND	<0.1
Cd	ND	<73
Hg	ND	<34

Spectrum



Notes

info: E63

Signature:

Serial Number: 841443 Time: 2021-12-03 10:56:43

Method : Geochem(3-Beam)

Daily ID:30

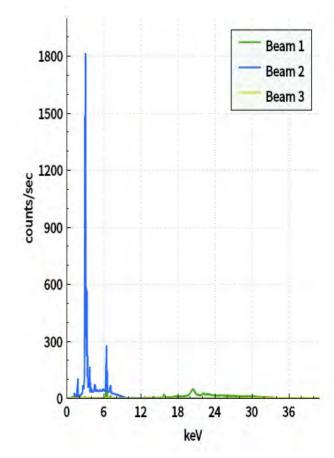
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	59	24
Pb	208	30
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<43
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<64

Spectrum



Notes

info: E64

Signature:

Serial Number: 841443 Time: 2021-12-03 11:02:36

Method : Geochem(3-Beam)

Daily ID:31

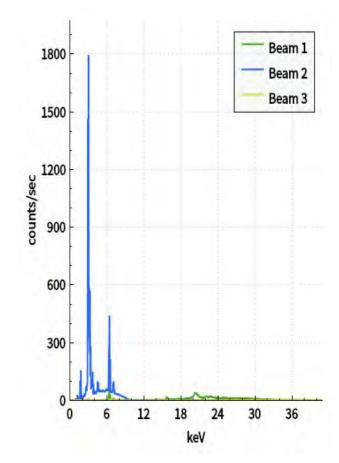
Elapsed Time : 34.2 s

Elapsed time: 34.2s

Chemistry

El	PPM	+/- 3σ
Ва	196	78
Pb	189	34
El	PPM	+/- 3σ
Cr	ND	<310
As	ND	<48
Se	ND	<17
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<77

Spectrum



Notes info:

E65

Signature:

Serial Number: 841443 Time: 2021-12-03 11:03:33

Method : Geochem(3-Beam)

Daily ID:32

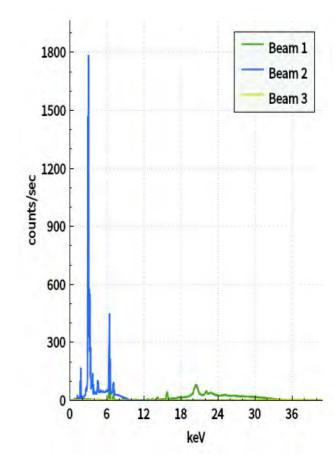
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	128	31
Pb	131	18
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<26
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<75
Hg	ND	<38

Spectrum



Notes

info: E65

Signature:

Serial Number: 841443 Time: 2021-12-03 11:08:51

Method : Geochem(3-Beam)

Daily ID:33

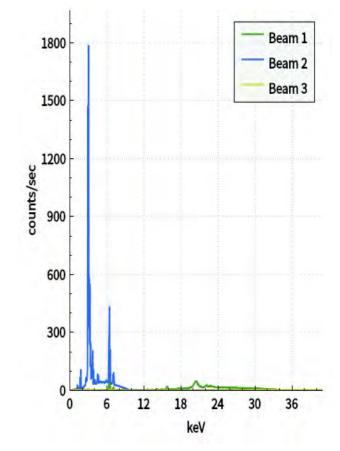
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ag	3	3
Ва	105	29
Pb	183	29
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<41
Se	ND	<14
Cd	ND	<100
Hg	ND	<61

Spectrum



Notes

info: E66

Signature:

Serial Number: 841443 Time: 2021-12-03 11:14:58

Method : Geochem(3-Beam)

Daily ID:34

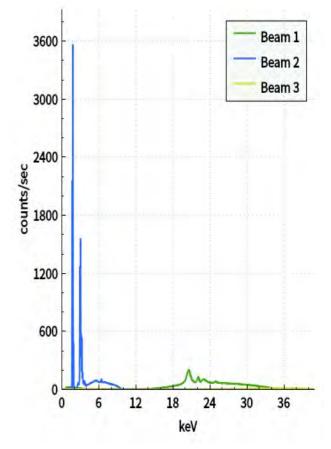
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	4	3
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Ва	ND	<1400
Hg	ND	<19
Pb	ND	<8

Spectrum



Notes

info: Blank 14

Signature:

Serial Number: 841443 Time: 2021-12-03 11:24:12

Method : Geochem(3-Beam)

Daily ID: 35

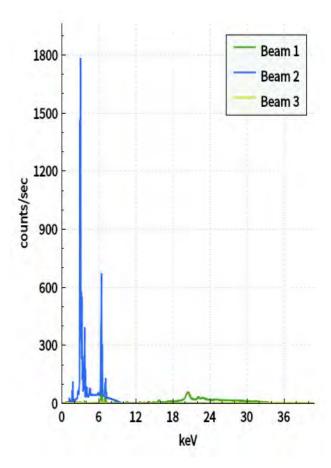
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	39	25
Ва	86	31
Pb	227	28
El	PPM	+/- 3σ
Cr	ND	<230
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<87
Hg	ND	<47

Spectrum



Notes

info: E67

Signature:

Serial Number: 841443 Time: 2021-12-03 11:29:08

Chemistry

Cal Check: Passed Resolution: 136 Count: 82085 Slope: 0.02

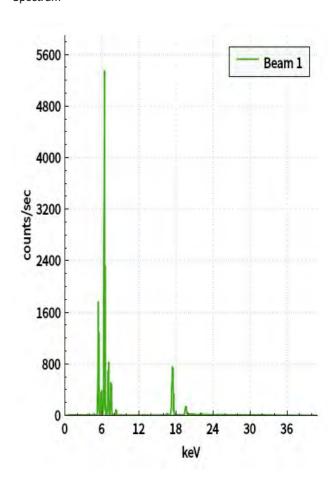
Offset: -0.0149037 Expected Resolution: 0 Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

Method: Cal Check Daily ID: 36C

Elapsed Time : 15 s

## Spectrum



Signature:	Date:	
Jigilatare.	Dutc	

Serial Number: 841443 Time: 2021-12-03 11:32:48

Method : Geochem(3-Beam)

Daily ID: 37

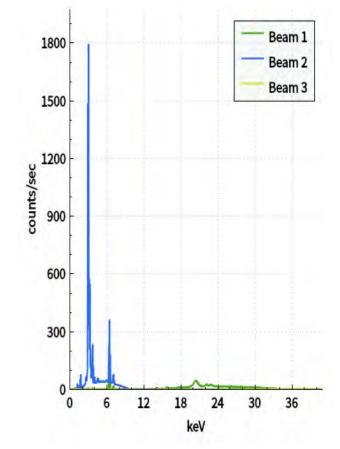
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	57	23
Pb	88	22
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<31
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<58

Spectrum



Notes

info: E68

Signature:

Serial Number: 841443 Time: 2021-12-03 11:38:01

Method : Geochem(3-Beam)

Daily ID:38

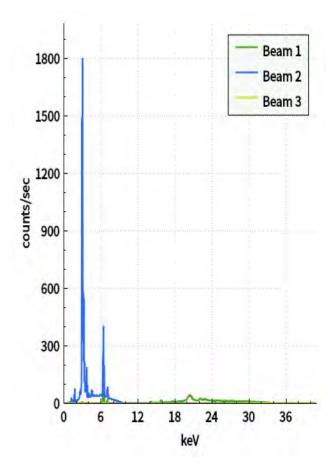
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	62	24
Pb	110	25
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<36
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<63

Spectrum



Notes info:

E69

Signature:

Serial Number: 841443 Time: 2021-12-03 11:42:46

Method : Geochem(3-Beam)

Daily ID: 39

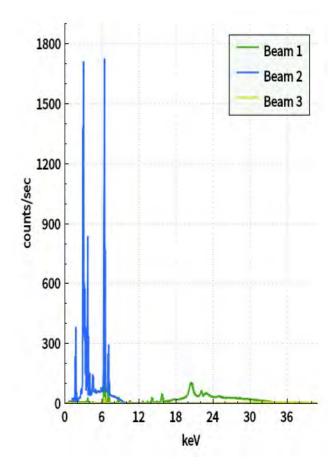
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	32	15
Ва	199	50
Pb	145	16
El	PPM	+/- 3σ
Cr	ND	<140
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<58
Hg	ND	<30

Spectrum



Notes

info: E70

Signature:

Serial Number: 841443 Time: 2021-12-03 12:21:22

Chemistry

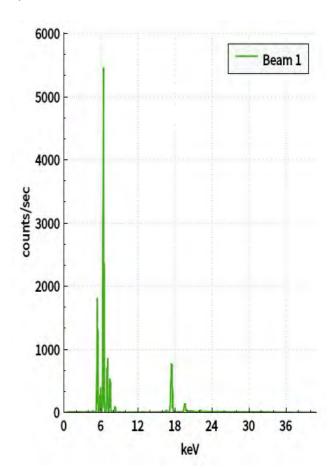
Method: Cal Check Daily ID: 40C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 83608
Slope: 0.0200012
Offset: -0.0150525
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	
Jighanne.	Date.	

Serial Number: 841443 Time: 2021-12-03 12:27:50

Method : Geochem(3-Beam)

Daily ID:41

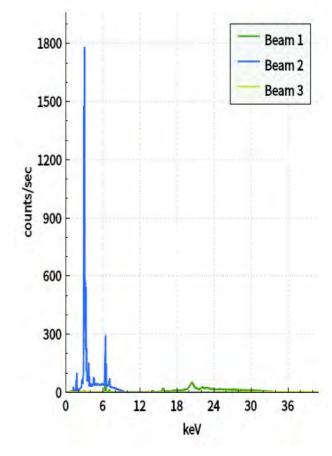
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	64	23
Pb	27	15
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<23
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<57

Spectrum



Notes

info: E71

Signature:

Serial Number: 841443 Time: 2021-12-03 12:34:51

Method : Geochem(3-Beam)

Daily ID:42

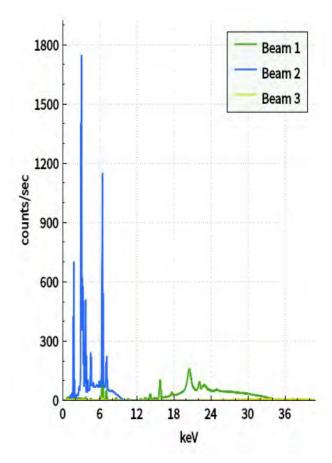
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	210	49
Pb	85	11
El	PPM	+/- 3σ
Cr	ND	<120
As	ND	<16
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<53
Hg	ND	<23

Spectrum



Notes

info: E72S

Signature:

Serial Number: 841443 Time: 2021-12-03 12:39:19

Method : Geochem(3-Beam)

Daily ID:43

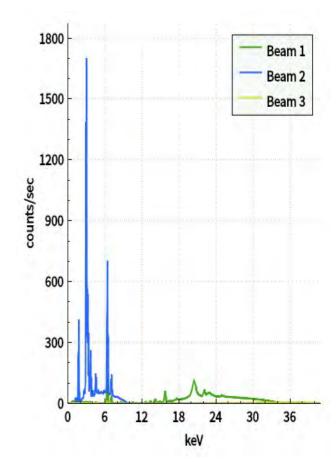
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	167	39
Pb	111	14
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<21
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<64
Hg	ND	<30

Spectrum



Notes

info: E72

Signature:

Serial Number: 841443 Time: 2021-12-03 12:44:32

Method : Geochem(3-Beam)

Daily ID:44

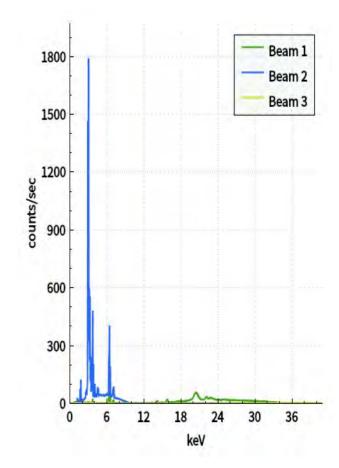
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	18	17
Ва	59	28
Pb	92	19
El	PPM	+/- 3σ
Cr	ND	<240
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<92
Hg	ND	<50

Spectrum



Notes

info: E73

Signature:

Serial Number: 841443 Time: 2021-12-03 12:49:36

Method : Geochem(3-Beam)

Daily ID: 45

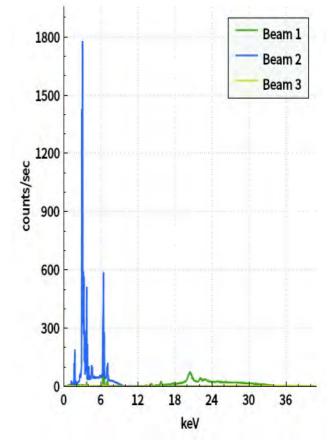
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	83	31
Pb	52	14
El	PPM	+/- 3σ
Cr	ND	<180
As	ND	<21
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<80
Hg	ND	<41

Spectrum



Notes

info: E74

Signature:

Serial Number: 841443 Time: 2021-12-03 13:10:13

Chemistry

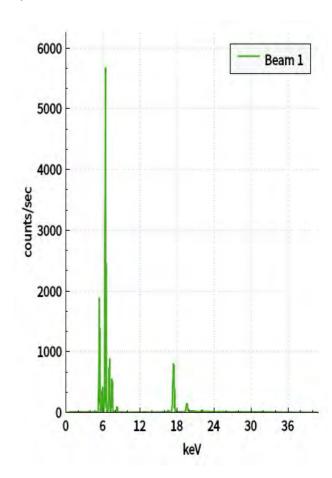
Method: Cal Check Daily ID: 46C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 86622
Slope: 0.0200008
Offset: -0.0152261
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	
Jigilatare.	Dutc	

Serial Number: 841443 Time: 2021-12-03 13:13:49

Method : Geochem(3-Beam)

Daily ID: 47

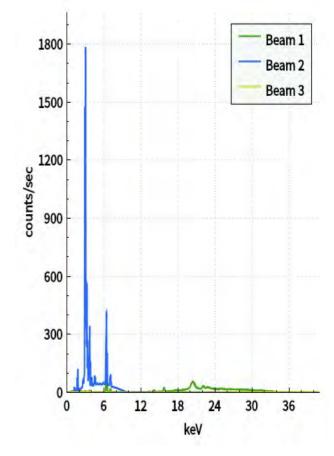
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	70	28
Pb	16	13
El	PPM	+/- 3σ
Cr	ND	<230
As	ND	<19
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<92
Hg	ND	<46

Spectrum



Notes

info: E75

Signature:

Serial Number: 841443 Time: 2021-12-03 13:20:17

Method : Geochem(3-Beam)

Daily ID:48

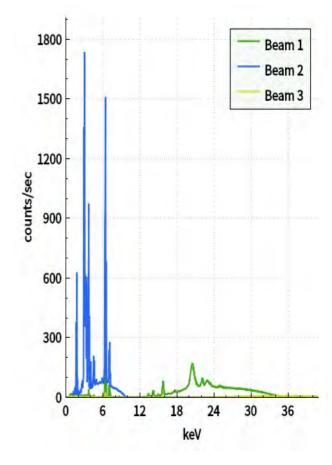
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ag	7	6
Ва	248	53
Pb	14	6
El	PPM	+/- 3σ
Cr	ND	<110
As	ND	<9
Se	ND	<5
Cd	ND	<51
Hg	ND	<22

Spectrum



Notes

info: E76

Signature:

Serial Number: 841443 Time: 2021-12-03 13:31:56

Method : Geochem(3-Beam)

Daily ID:49

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	7	6
Ва	78	29
Pb	35	15
El	PPM	+/- 3σ
Cr	ND	<230
As	ND	<23
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<47

Spectrum

Notes

info: E77

Signature:

Serial Number: 841443 Time: 2021-12-03 13:43:27

Chemistry

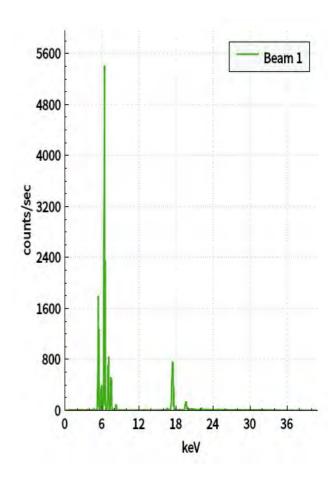
Method: Cal Check Daily ID: 50C

Elapsed Time : 15 s

Cal Check: Passed
Resolution: 136
Count: 82775
Slope: 0.0200004
Offset: -0.0151143
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	
Jigilatare.	Dutc	

Serial Number: 841443 Time: 2021-12-03 13:45:59

Method : Geochem(3-Beam)

Daily ID:51

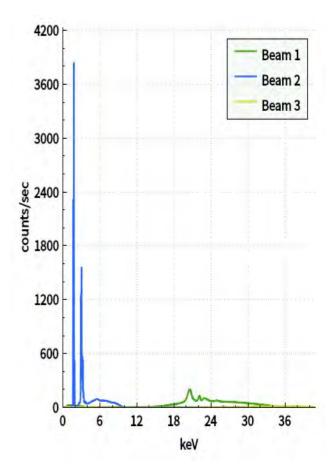
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	3	3
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Ва	ND	<1400
Hg	ND	<21
Pb	ND	<8

Spectrum



Notes

info: Blank 15

Signature: Date:

Serial Number: 841443 Time: 2021-12-03 13:50:02

Method : Geochem(3-Beam)

Daily ID:52

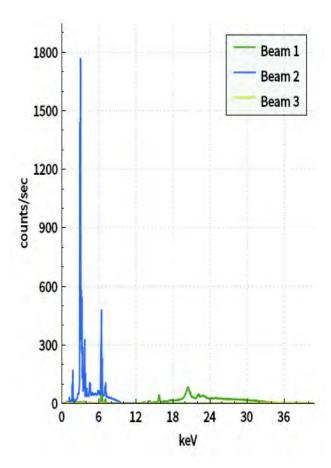
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	11	10
Ва	132	31
Pb	20	11
El	PPM	+/- 3σ
Cr	ND	<170
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<78
Hg	ND	<40

Spectrum



Notes

info: E77

Signature:

Serial Number: 841443 Time: 2021-12-03 13:57:06

Method : Geochem(3-Beam)

Daily ID:53

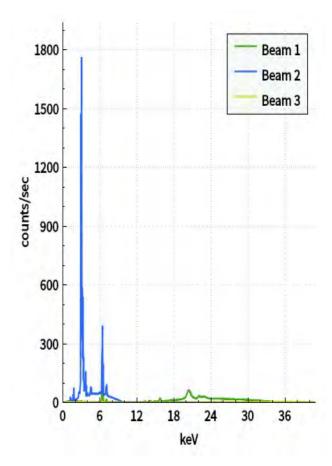
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	67	26
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<18
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<44
Pb	ND	<20

Spectrum



Notes

info: E78

Signature:

Serial Number: 841443 Time: 2021-12-03 14:04:13

Method : Geochem(3-Beam)

Daily ID:54

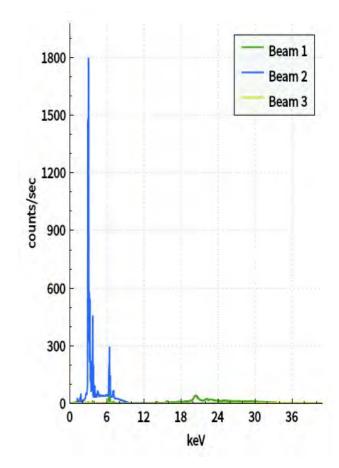
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	61	26
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<22
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<68
Pb	ND	<27

Spectrum



Notes

info: E79

Signature:

Serial Number: 841443 Time: 2021-12-03 14:22:52

Method : Geochem(3-Beam)

Daily ID:55

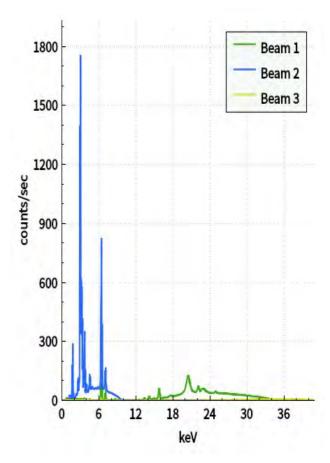
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	185	39
Pb	40	9
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<14
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<60
Hg	ND	<25

Spectrum



Notes

info: E80

Signature:

Serial Number: 841443 Time: 2021-12-03 14:26:18

Method : Geochem(3-Beam)

Daily ID:56

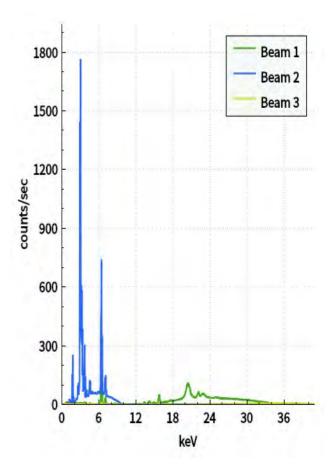
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	127	37
Pb	37	10
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<15
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<64
Hg	ND	<30

Spectrum



Notes

info: Dup. 16

Signature:

Serial Number: 841443 Time: 2021-12-03 14:30:54

Method : Geochem(3-Beam)

Daily ID:57

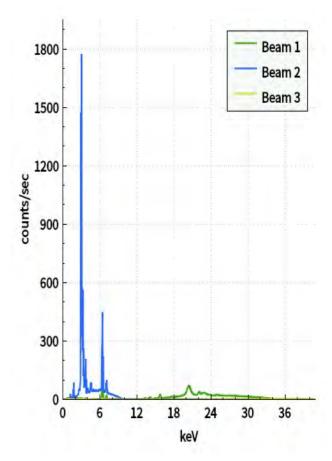
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	99	28
Pb	28	12
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<18
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<83
Hg	ND	<40

Spectrum



Notes

info: E81

Signature:

Serial Number: 841443 Time: 2021-12-03 14:35:42

Method : Geochem(3-Beam)

Daily ID:58

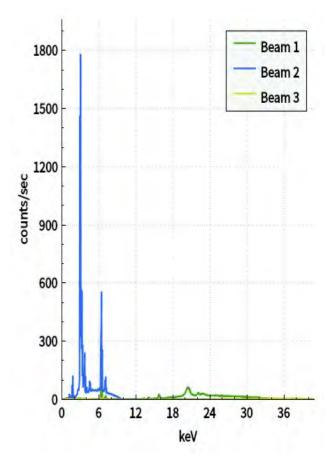
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	83	33
Pb	23	13
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<19
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<46

Spectrum



Notes

info: E82

Signature:

Serial Number: 841443 Time: 2021-12-03 15:00:40

Method : Geochem(3-Beam)

Daily ID:59

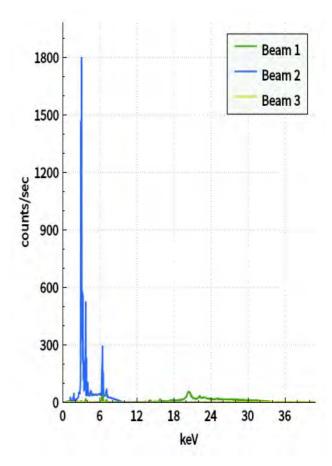
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	47	24
Pb	80	19
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<28
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<96
Hg	ND	<51

Spectrum



Notes

info: A14X

Signature:

Serial Number: 841443 Time: 2021-12-03 15:06:55

Method : Geochem(3-Beam)

Daily ID:60

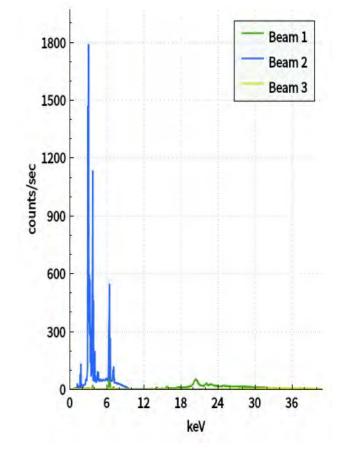
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	137	43
Pb	59	18
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<27
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<52

Spectrum



Notes

info: A15X

Signature:

Serial Number: 841443 Time: 2021-12-03 15:11:24

Method : Geochem(3-Beam)

Daily ID:61

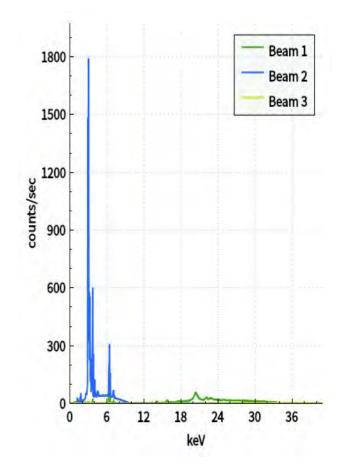
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	8	8
Ва	55	24
Pb	30	15
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<22
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<57

Spectrum



Notes

info: A16

Signature:

Serial Number: 841443 Time: 2021-12-03 15:21:34

Method : Geochem(3-Beam)

Daily ID:62

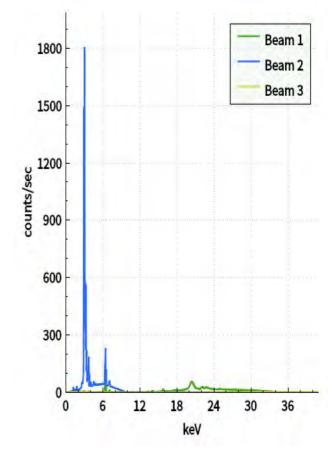
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	44	20
Pb	19	14
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<20
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<97
Hg	ND	<56

Spectrum



Notes

info: A17

Signature:

Serial Number: 841443 Time: 2021-12-03 15:49:44

Method : Geochem(3-Beam)

Daily ID:63

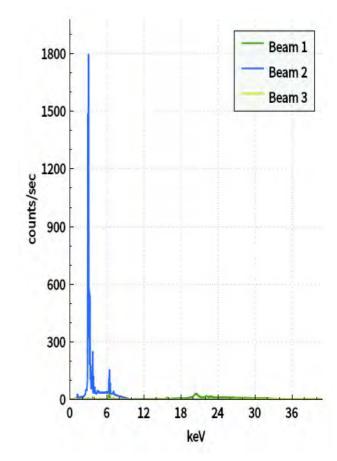
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	46	18
El	PPM	+/- 3σ
Cr	ND	<420
As	ND	<33
Se	ND	<22
Ag	ND	<0.1
Cd	ND	<150
Hg	ND	<97
Pb	ND	<39

Spectrum



Notes

info: A18

Signature:

Serial Number: 841443 Time: 2021-12-03 15:53:49

Method : Geochem(3-Beam)

Daily ID:64

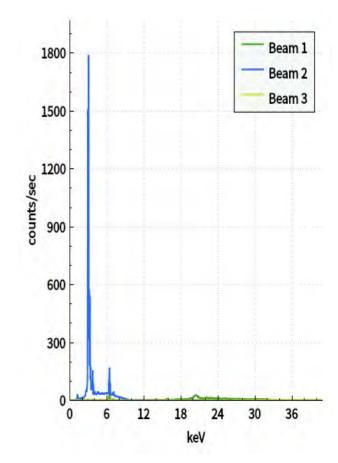
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	33	18
El	PPM	+/- 3σ
Cr	ND	<420
As	ND	<35
Se	ND	<24
Ag	ND	<0.1
Cd	ND	<160
Hg	ND	<100
Pb	ND	<41

Spectrum



Notes info:

A19

Signature:

Serial Number: 841443 Time: 2021-12-03 15:58:26

Method : Geochem(3-Beam)

Daily ID:65

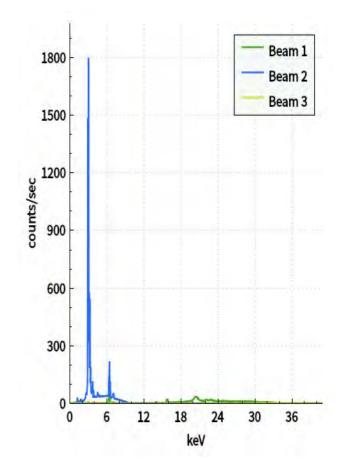
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	44	17
El	PPM	+/- 3σ
Cr	ND	<360
As	ND	<26
Se	ND	<18
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<78
Pb	ND	<32

Spectrum



Notes

info: A20

Signature:

Serial Number: 841443 Time: 2021-12-06 07:21:01

Chemistry

Cal Check: Passed Resolution: 136 Count: 85529 Slope: 0.0200016 Offset: -0.014745

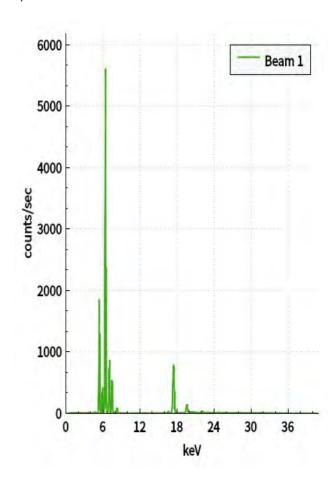
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

Method: Cal Check Daily ID: 1C

Elapsed Time : 15 s

## Spectrum



Signature:	Date:	
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Serial Number: 841443 Time: 2021-12-06 07:23:13

Method : Geochem(3-Beam)

Daily ID:2

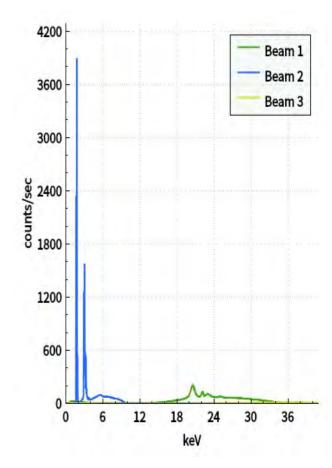
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	4	3
Ва	86	69
El	PPM	+/- 3σ
Cr	ND	<95
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Hg	ND	<21
Pb	ND	<8

Spectrum



Notes

info: Blank 16

Signature: \_\_\_\_\_ Date: \_\_\_\_

Serial Number: 841443 Time: 2021-12-06 07:28:03

Method : Geochem(3-Beam)

Daily ID:3

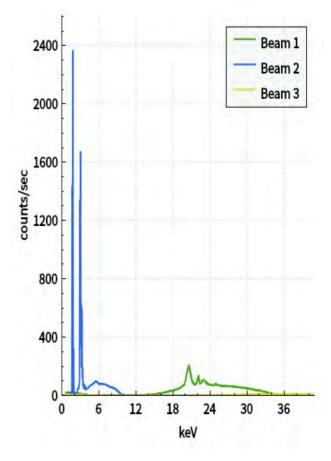
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	86	59
El	PPM	+/- 3σ
Cr	ND	<97
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<54
Hg	ND	<21
Pb	ND	<8

Spectrum



Notes

info: Blank 17

Signature:

Serial Number: 841443 Time: 2021-12-06 07:30:06

Method : Geochem(3-Beam)

Daily ID:4

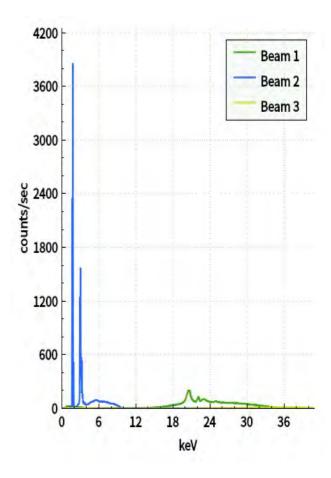
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<87
As	ND	<6
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<53
Ва	ND	<1400
Hg	ND	<20
Pb	ND	<8

Spectrum



Notes

info: Blank 18

Signature:

Serial Number: 841443 Time: 2021-12-06: 07:44:08

Method : Geochem(3-Beam)

Daily ID:5

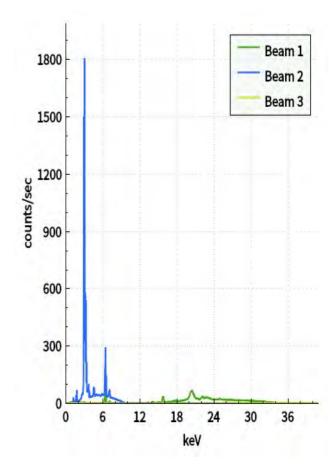
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	77	24
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<17
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<89
Hg	ND	<43
Pb	ND	<20

Spectrum



Notes

info: A21

Signature:

Serial Number: 841443 Time: 2021-12-06 07:50:51

Method : Geochem(3-Beam)

Daily ID:6

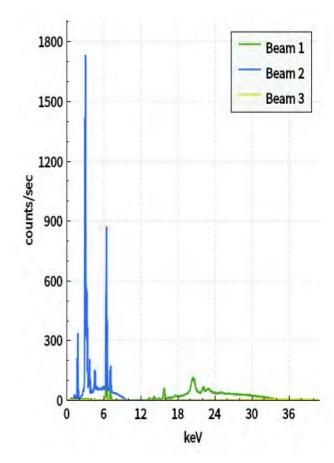
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	9	7
Ва	162	40
Pb	10	8
El	PPM	+/- 3σ
Cr	ND	<140
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<62
Hg	ND	<28

Spectrum



Notes

info: A22

Signature:

Serial Number: 841443 Time: 2021-12-06 08:01:42

Method : Geochem(3-Beam)

Daily ID:7

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	111	33
Pb	10	7
El	PPM	+/- 3σ
Cr	ND	<130
As	ND	<11
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<62
Hg	ND	<27

Spectrum

Notes

info: 23SUR

Signature:

Serial Number: 841443 Time: 2021-12-06 08:07:27

Method : Geochem(3-Beam)

Daily ID:8

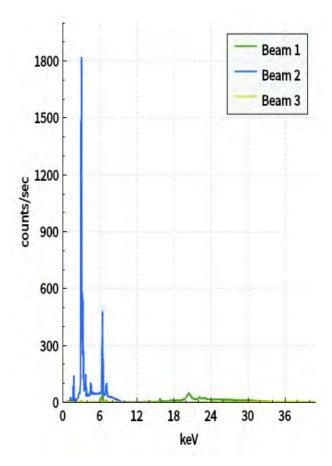
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	116	33
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<21
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<64
Pb	ND	<26

Spectrum



Notes

info: A24

Signature:

Serial Number: 841443 Time: 2021-12-06 08:12:41

Method : Geochem(3-Beam)

Daily ID:9

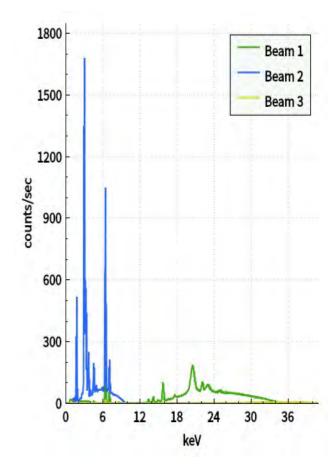
Elapsed Time : 33.7 s

Elapsed time: 33.7s

Chemistry

El	PPM	+/- 3σ
Ва	262	92
Pb	13	6
El	PPM	+/- 3σ
Cr	ND	<110
As	ND	<9
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<50
Hg	ND	<20

Spectrum



Notes

info: A25

Signature:

Serial Number: 841443 Time: 2021-12-06 08:14:32

Method : Geochem(3-Beam)

Daily ID:10

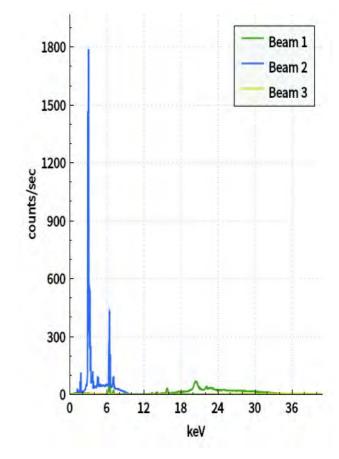
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	88	30
Pb	11	11
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<16
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<87
Hg	ND	<43

Spectrum



Notes

info: A25

Signature:

Serial Number: 841443 Time: 2021-12-06 08:31:56

Method : Geochem(3-Beam)

Daily ID:11

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	72	26
Pb	46	15
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<22
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<91
Hg	ND	<46

Spectrum

Notes

info: E83

Signature:

Serial Number: 841443 Time: 2021-12-06 08:37:25

Method : Geochem(3-Beam)

Daily ID:12

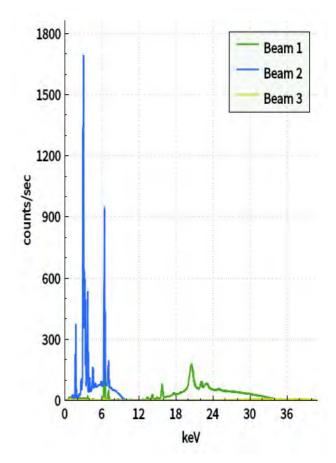
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	8	6
Ва	144	41
Pb	29	7
El	PPM	+/- 3σ
Cr	ND	<110
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<50
Hg	ND	<21

Spectrum



Notes

info: E84

Signature:

Serial Number: 841443 Time: 2021-12-06 08:44:03

Method : Geochem(3-Beam)

Daily ID:13

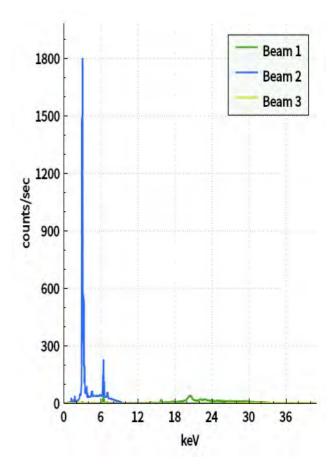
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	57	23
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<24
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<71
Pb	ND	<30

Spectrum



Notes

info: E85

Signature:

Serial Number: 841443 Time: 2021-12-06 08:48:51

Method : Geochem(3-Beam)

Daily ID:14

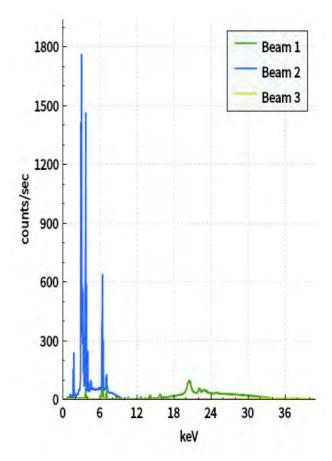
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	109	41
Pb	185	19
El	PPM	+/- 3σ
Cr	ND	<140
As	ND	<27
Se	ND	<8
Ag	ND	<0.1
Cd	ND	<69
Hg	ND	<31

Spectrum



Notes

info: E86

Signature:

Serial Number: 841443 Time: 2021-12-06 08:54:16

Method : Geochem(3-Beam)

Daily ID:15

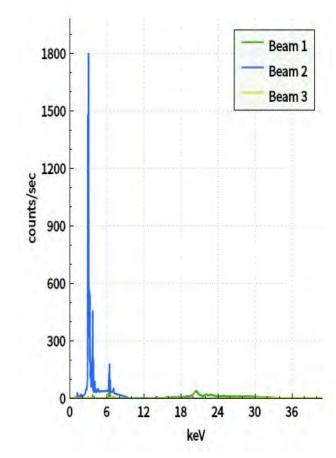
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	32	20
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<26
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<74
Pb	ND	<31

Spectrum



Notes

info: E87

Signature:

Serial Number: 841443 Time: 2021-12-06: 09:07:01

Method : Geochem(3-Beam)

Daily ID:16

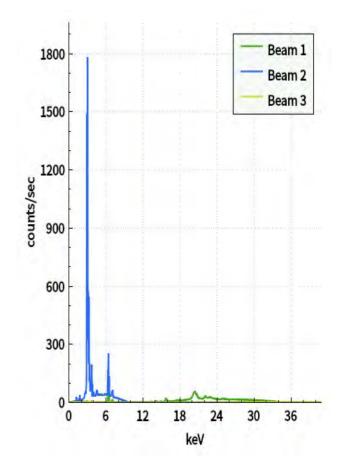
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	52	21
Pb	84	20
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<28
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<50

Spectrum



Notes

info: E88

Signature:

Serial Number: 841443 Time: 2021-12-06 09:11:42

Method : Geochem(3-Beam)

Daily ID: 17

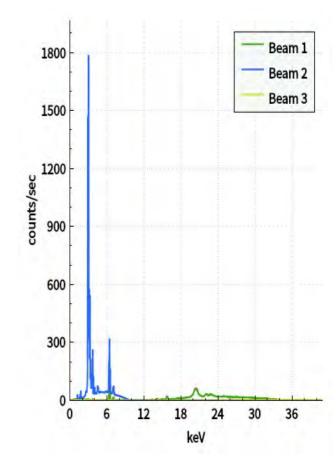
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	73	24
Pb	58	16
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<23
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<90
Hg	ND	<45

Spectrum



Notes

info: E89

Signature:

Serial Number: 841443 Time: 2021-12-06 09:16:14

Method : Geochem(3-Beam)

Daily ID:18

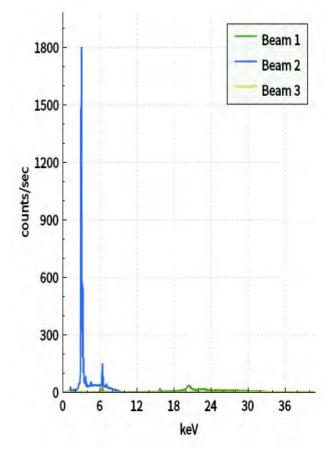
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	48	19
Pb	24	20
El	PPM	+/- 3σ
Cr	ND	<330
As	ND	<29
Se	ND	<19
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<77

Spectrum



Notes

info: E90

Signature:

Serial Number: 841443 Time: 2021-12-06: 09:34:16

Method : Geochem(3-Beam)

Daily ID:19

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	9	7
Ва	48	19
Pb	22	16
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<23
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<60

Spectrum

Notes

info: A26

Signature:

Serial Number: 841443 Time: 2021-12-06: 09:39:36

Method : Geochem(3-Beam)

Daily ID:20

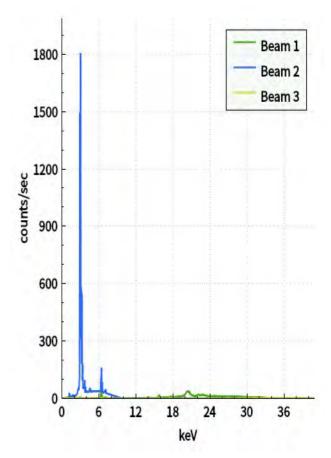
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	40	17
Pb	30	19
El	PPM	+/- 3σ
Cr	ND	<330
As	ND	<29
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<69

Spectrum



Notes

info: A27

Signature:

Serial Number: 841443 Time: 2021-12-06: 09:43:47

Method : Geochem(3-Beam)

Daily ID:21

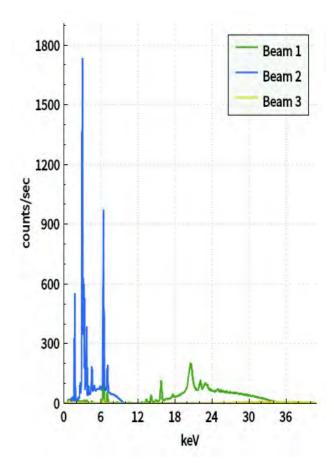
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	6	6
Se	3	3
Cd	38	28
Ва	230	47
Pb	32	7
El	PPM	+/- 3σ
Cr	ND	<100
Ag	ND	<0.1
Hg	ND	<18

Spectrum



Notes

info: A28

Signature:

Serial Number: 841443 Time: 2021-12-06:09:56:09

Method : Geochem(3-Beam)

Daily ID:22

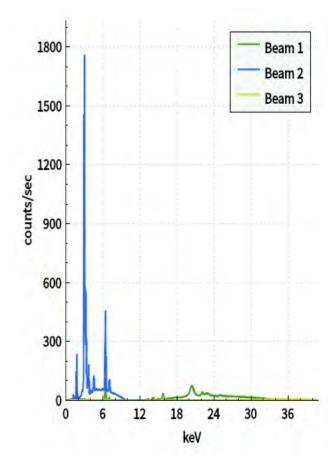
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	151	38
Pb	18	11
El	PPM	+/- 3σ
Cr	ND	<180
As	ND	<17
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<82
Hg	ND	<34

Spectrum



Notes

info: A29

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:19:13

Method : Geochem(3-Beam)

Daily ID: 23

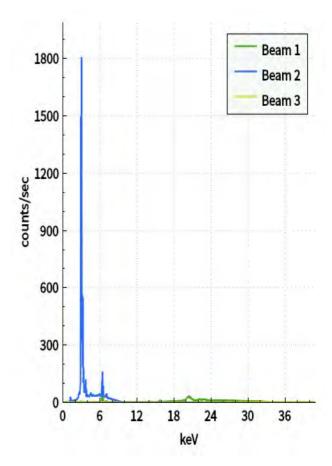
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	17	17
Se	12	12
Ва	34	16
El	PPM	+/- 3σ
Cr	ND	<390
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<89
Pb	ND	<33

Spectrum



Notes

info: A30

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:21:42

Method : Geochem(3-Beam)

Daily ID:24

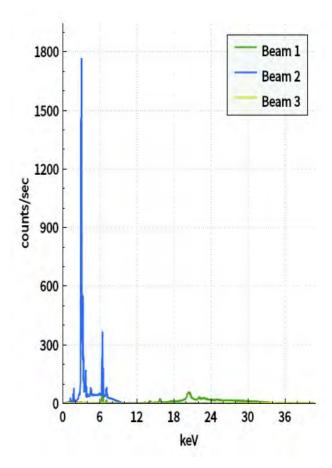
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	11	11
Ва	93	27
El	PPM	+/- 3σ
Cr	ND	<240
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<95
Hg	ND	<50
Pb	ND	<21

Spectrum



Notes

info: A31

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:23:25

Method : Geochem(3-Beam)

Daily ID: 25

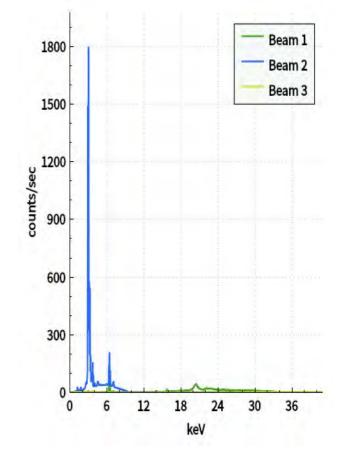
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	52	21
Pb	40	19
El	PPM	+/- 3σ
Cr	ND	<290
As	ND	<29
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<64

Spectrum



Notes

info: A32

Signature:

Serial Number: 841443 Time: 2021-12-06:10:26:08

Method : Geochem(3-Beam)

Daily ID: 26

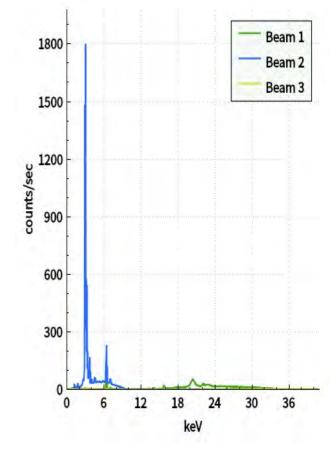
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	8	7
Ва	44	20
Pb	37	17
El	PPM	+/- 3σ
Cr	ND	<230
As	ND	<25
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<54

Spectrum



Notes

info: DupA32-1

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:27:28

Method : Geochem(3-Beam)

Daily ID: 27

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	61	20
Pb	43	18
El	PPM	+/- 3σ
Cr	ND	<270
As	ND	<27
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<60

Spectrum

Notes

info: DupA32-2

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:28:41

Method : Geochem(3-Beam)

Daily ID:28

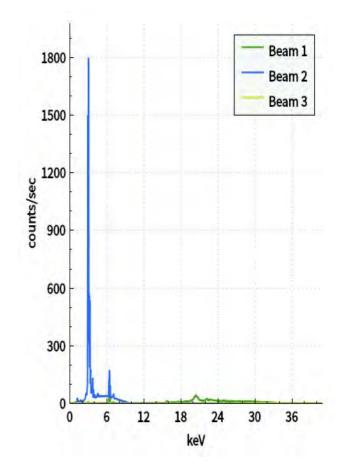
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	38	18
Pb	27	18
El	PPM	+/- 3σ
Cr	ND	<300
As	ND	<29
Se	ND	<17
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<70

Spectrum



Notes

info: DupA32-3

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:29:50

Method : Geochem(3-Beam)

Daily ID: 29

Elapsed Time : 50 s

Elapsed time: 50.0s

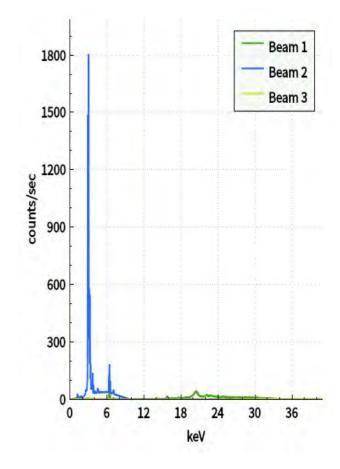
Chemistry

El	PPM	+/- 3σ
As	19	16
Se	9	8
Ва	50	19
Pb	25	18
El	PPM	+/- 3σ
Cr	ND	<280
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<61

Spectrum

Notes info:

DupA32-4



••		
Signature:		

ate:			

Serial Number: 841443 Time: 2021-12-06: 10:31:49

Method : Geochem(3-Beam)

Daily ID:30

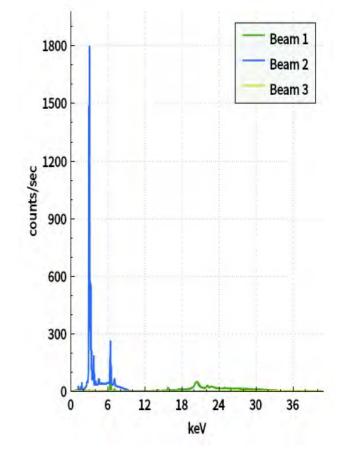
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	63	23
Pb	37	16
El	PPM	+/- 3σ
Cr	ND	<230
As	ND	<25
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<55

Spectrum



Notes

info: DupA32-5

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:33:04

Method : Geochem(3-Beam)

Daily ID:31

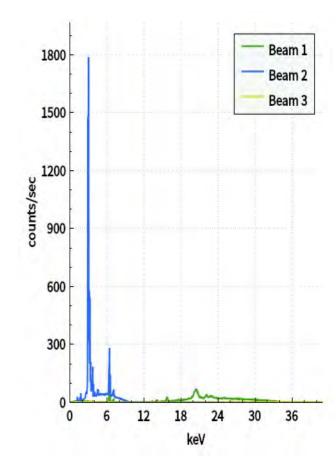
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	6	6
Ва	63	22
Pb	35	13
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<20
Ag	ND	<0.1
Cd	ND	<87
Hg	ND	<42

Spectrum



Notes

info: DupA32-6

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:36:32

Method : Geochem(3-Beam)

Daily ID:32

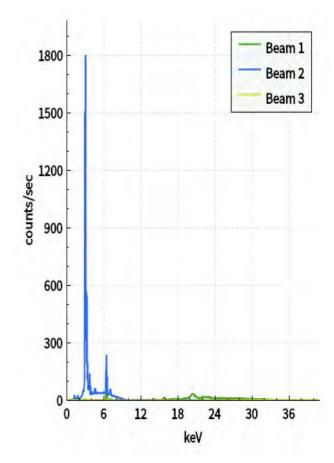
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	50	21
El	PPM	+/- 3σ
Cr	ND	<310
As	ND	<25
Se	ND	<17
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<76
Pb	ND	<31

Spectrum



Notes

info: A33

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:38:31

Method : Geochem(3-Beam)

Daily ID:33

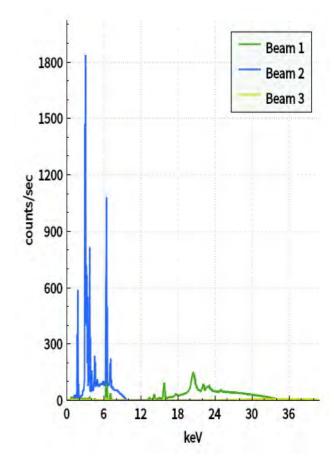
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	259	51
El	PPM	+/- 3σ
Cr	ND	<120
As	ND	<9
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<56
Hg	ND	<23
Pb	ND	<11

Spectrum



Notes

info: A34SUR

Signature:

Serial Number: 841443 Time: 2021-12-06: 10:57:02

Method : Geochem(3-Beam)

Daily ID:34

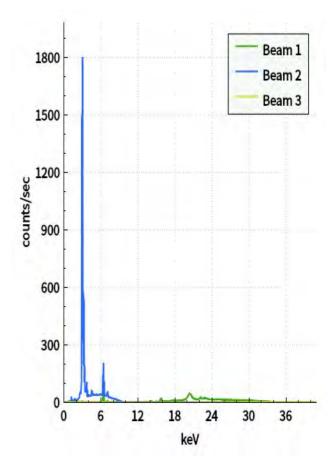
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	63	19
El	PPM	+/- 3σ
Cr	ND	<270
As	ND	<20
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<53
Pb	ND	<25

Spectrum



Notes

info: A35

Signature:

Serial Number: 841443 Time: 2021-12-06: 11:05:10

Method : Geochem(3-Beam)

Daily ID: 35

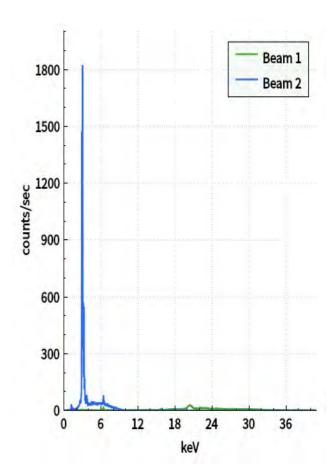
Elapsed Time : 12.1 s

Elapsed time: 12.1s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<450
As	ND	<39
Se	ND	<24
Ag	ND	<0.1
Cd	ND	<170
Ва	ND	<12000
Hg	ND	<92
Pb	ND	<45

Spectrum



Notes info: A36

Signature: Date:

Serial Number: 841443 Time: 2021-12-06: 11:05:38

Method : Geochem(3-Beam)

Daily ID:36

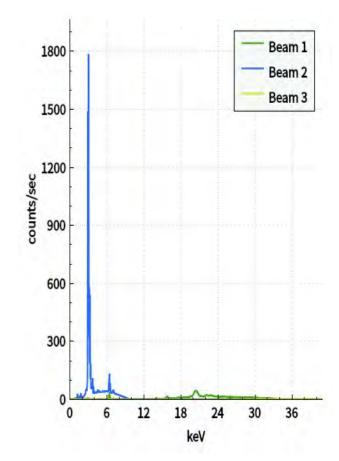
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	26	17
Pb	21	16
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<25
Se	ND	<15
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<53

Spectrum



Notes

info: A36

Signature:

Serial Number: 841443 Time: 2021-12-06: 11:08:31

Method : Geochem(3-Beam)

Daily ID: 37

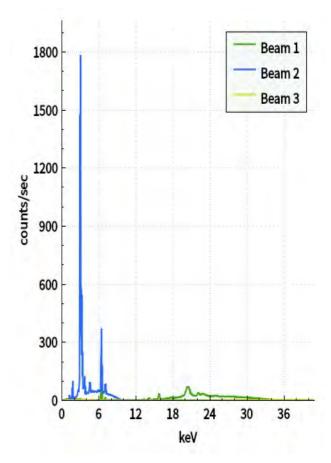
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	75	26
El	PPM	+/- 3σ
Cr	ND	<180
As	ND	<15
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<83
Hg	ND	<38
Pb	ND	<19

Spectrum



Notes

info: A37

Signature:

Serial Number: 841443 Time: 2021-12-06: 12:14:47

Method: Cal Check Daily ID: 38C

Elapsed Time : 15 s

Chemistry

Cal Check: Failed - Cal Check rate out of range.

Resolution: 136

Count: 64987

Slope: 0.0200006

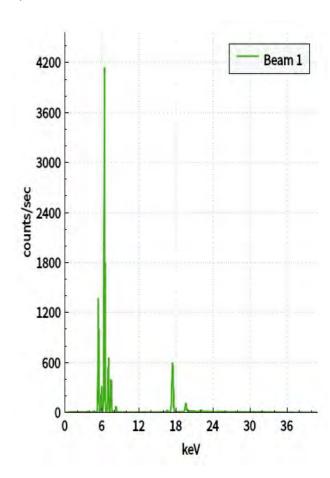
Offset: -0.0151696

Expected Resolution: 0

Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature:	Date:	
Jigilatare.	Dutc	

Serial Number: 841443 Time: 2021-12-06: 12:15:47

Method: Cal Check Daily ID: 39C

Elapsed Time : 15 s

Chemistry

Cal Check: Failed - Cal Check rate out of range.

Resolution: 136

Count: 76809

Slope: 0.0199995

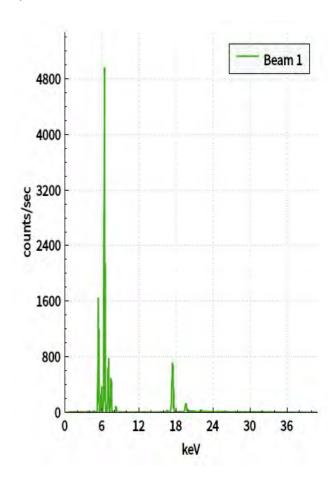
Offset: -0.0147862

Expected Resolution: 0

Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

## Spectrum



Signature <sup>.</sup>	Date:	
Jighanne.	Date	

Serial Number: 841443 Time: 2021-12-06: 12:22:05

Chemistry

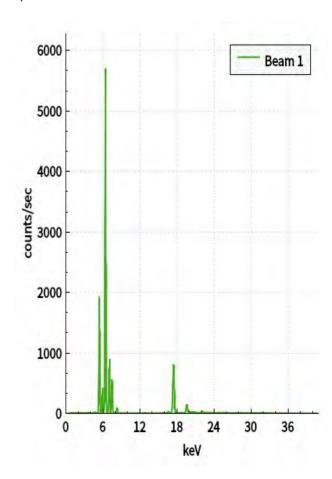
Cal Check: Passed
Resolution: 136
Count: 87512
Slope: 0.0199993
Offset: -0.0149023
Expected Resolution: 0
Expected Count: 0

Expected Slope: 0.0199996
Expected Offset: -0.0149023

Method: Cal Check Daily ID: 40C

Elapsed Time : 15 s

## Spectrum



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Signature: _	Date:	

Serial Number: 841443 Time: 2021-12-06: 12:22:43

Method : Geochem(3-Beam)

Daily ID:41

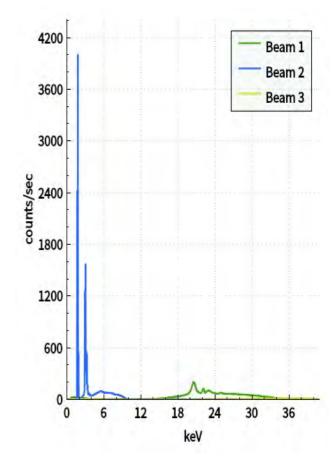
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	4	3
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Ва	ND	<1400
Hg	ND	<22
Pb	ND	<8

Spectrum



Notes

info: Blank 19

Signature:

Serial Number: 841443 Time: 2021-12-06: 12:33:46

Method : Geochem(3-Beam)

Daily ID:42

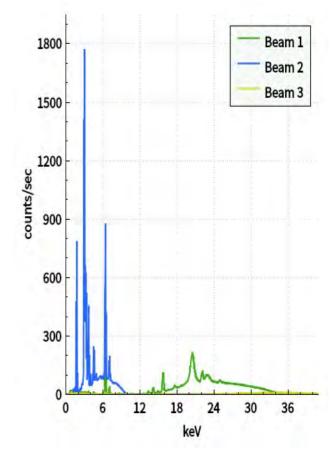
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	218	49
Pb	27	6
El	PPM	+/- 3σ
Cr	ND	<96
As	ND	<10
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<47
Hg	ND	<18

Spectrum



Notes

info: A38SUR

Signature:

Serial Number: 841443 Time: 2021-12-06: 12:36:31

Method : Geochem(3-Beam)

Daily ID:43

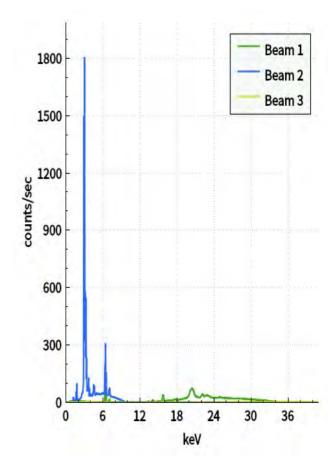
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	85	26
Pb	30	12
El	PPM	+/- 3σ
Cr	ND	<190
As	ND	<18
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<82
Hg	ND	<39

Spectrum



Notes

info: A38

Signature:

Serial Number: 841443 Time: 2021-12-06: 12:41:46

Method : Geochem(3-Beam)

Daily ID:44

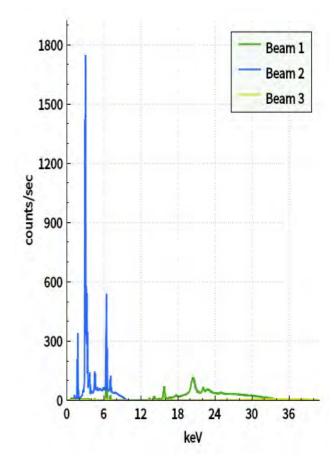
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	166	39
Pb	14	8
El	PPM	+/- 3σ
Cr	ND	<130
As	ND	<11
Se	ND	<7
Ag	ND	<0.1
Cd	ND	<63
Hg	ND	<26

Spectrum



Notes

info: A39

Signature:

Serial Number: 841443 Time: 2021-12-06: 12:53:16

Method : Geochem(3-Beam)

Daily ID: 45

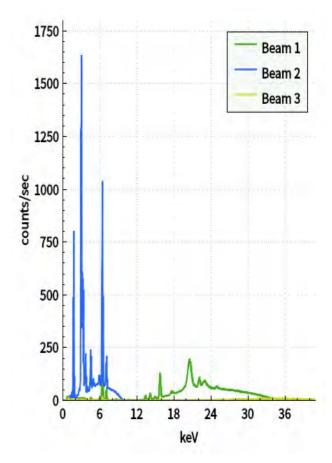
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	10	5
Ва	273	52
Pb	15	6
El	PPM	+/- 3σ
Cr	ND	<99
Se	ND	<5
Ag	ND	<0.1
Cd	ND	<48
Hg	ND	<18

Spectrum



Notes

info: A40

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:05:58

Method : Geochem(3-Beam)

Daily ID:46

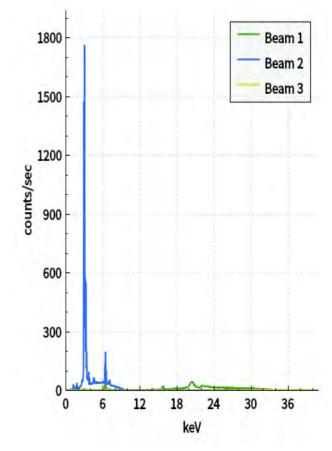
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	44	20
Pb	84	22
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<33
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<61

Spectrum



Notes

info: A41

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:12:29

Method : Geochem(3-Beam)

Daily ID: 47

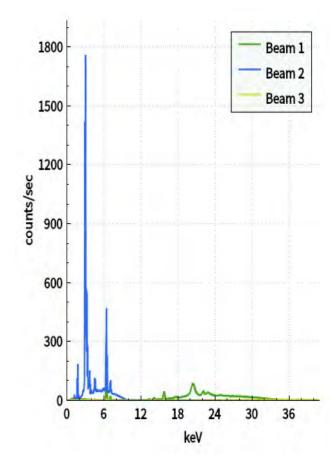
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	92	31
Pb	44	12
El	PPM	+/- 3σ
Cr	ND	<170
As	ND	<18
Se	ND	<9
Ag	ND	<0.1
Cd	ND	<75
Hg	ND	<34

Spectrum



Notes

info: A42

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:19:18

Method : Geochem(3-Beam)

Daily ID:48

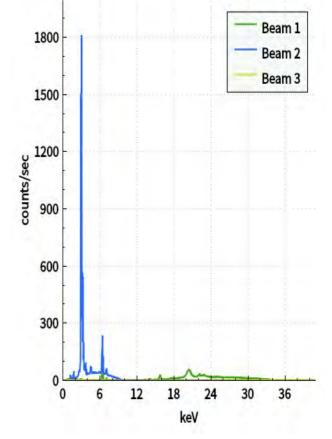
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	59	22
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<18
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<98
Hg	ND	<47
Pb	ND	<22

Spectrum



Notes

info: A43

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:29:40

Method : Geochem(3-Beam)

Daily ID:49

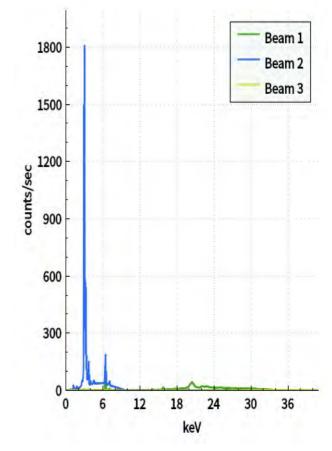
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	34	18
Pb	112	26
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<37
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<67

Spectrum



Notes

info: A44

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:34:31

Method : Geochem(3-Beam)

Daily ID:50

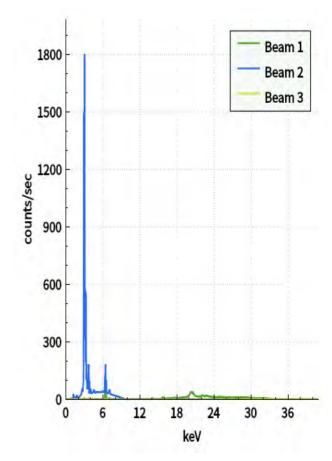
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	27	18
Pb	33	20
El	PPM	+/- 3σ
Cr	ND	<290
As	ND	<29
Se	ND	<18
Ag	ND	<0.1
Cd	ND	<120
Hg	ND	<73

Spectrum



Notes

info: A45

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:39:53

Method : Geochem(3-Beam)

Daily ID:51

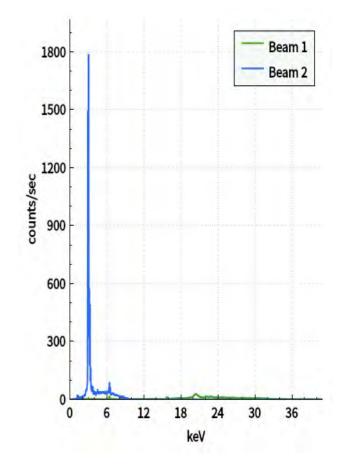
Elapsed Time : 12.2 s

Elapsed time: 12.2s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<430
As	ND	<36
Se	ND	<21
Ag	ND	<0.1
Cd	ND	<160
Ва	ND	<11000
Hg	ND	<98
Pb	ND	<44

Spectrum



Notes info: A46

Signature: Date:

Serial Number: 841443 Time: 2021-12-06: 13:40:48

Method : Geochem(3-Beam)

Daily ID:52

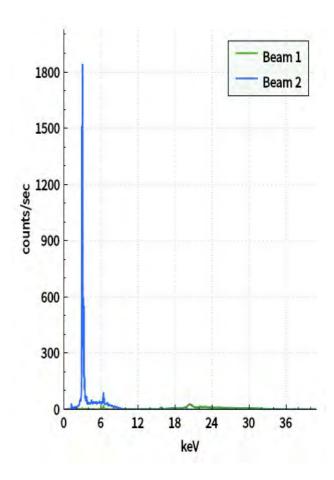
Elapsed Time : 13.7 s

Elapsed time: 13.7s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<440
As	ND	<36
Se	ND	<22
Ag	ND	<0.1
Cd	ND	<160
Ва	ND	<12000
Hg	ND	<97
Pb	ND	<44

Spectrum



Notes info: A46

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:41:21

Method : Geochem(3-Beam)

Daily ID:53

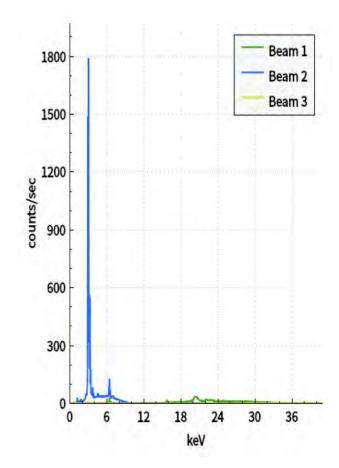
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	47	17
El	PPM	+/- 3σ
Cr	ND	<310
As	ND	<29
Se	ND	<17
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<80
Pb	ND	<36

Spectrum



Notes

info: A46

Signature:

Serial Number: 841443 Time: 2021-12-06: 13:55:34

Method : Geochem(3-Beam)

Daily ID:54

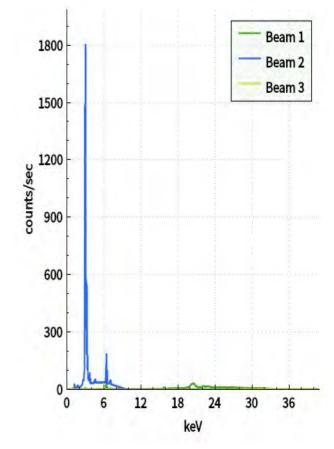
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	41	17
El	PPM	+/- 3σ
Cr	ND	<390
As	ND	<31
Se	ND	<20
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<88
Pb	ND	<37

Spectrum



Notes

info: E91

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:00:54

Method : Geochem(3-Beam)

Daily ID:55

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	53	21
Pb	15	14
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<21
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<53

Spectrum

Notes

info: E92

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:10:19

Method : Geochem(3-Beam)

Daily ID:56

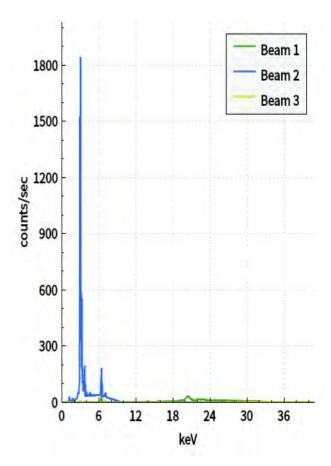
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	33	20
El	PPM	+/- 3σ
Cr	ND	<370
As	ND	<30
Se	ND	<19
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<85
Pb	ND	<37

Spectrum



Notes info:

E93

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:13:54

Method : Geochem(3-Beam)

Daily ID: 57

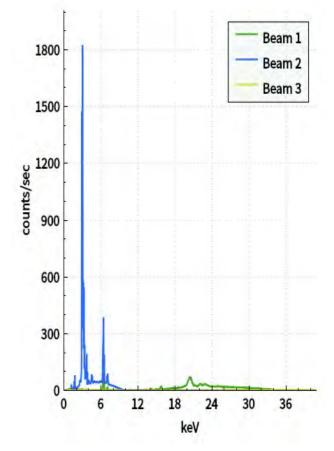
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	6	6
Ва	56	24
Pb	19	12
El	PPM	+/- 3σ
Cr	ND	<180
As	ND	<17
Ag	ND	<0.1
Cd	ND	<85
Hg	ND	<37

Spectrum



Notes

info: E94

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:16:06

Method : Geochem(3-Beam)

Daily ID:58

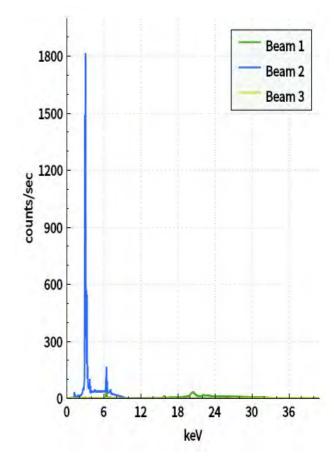
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	30	16
Pb	30	22
El	PPM	+/- 3σ
Cr	ND	<370
As	ND	<32
Se	ND	<18
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<80

Spectrum



Notes

info: E94 Dup

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:18:37

Method : Geochem(3-Beam)

Daily ID:59

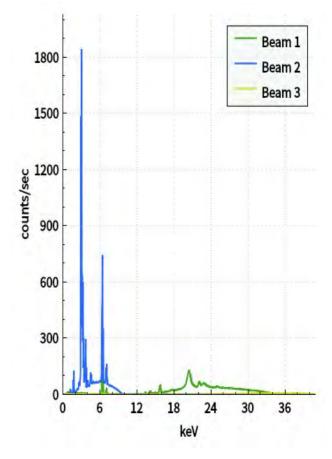
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	136	35
Pb	13	7
El	PPM	+/- 3σ
Cr	ND	<130
As	ND	<11
Se	ND	<6
Ag	ND	<0.1
Cd	ND	<61
Hg	ND	<25

Spectrum



Notes

info: E95SUR

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:31:16

Method : Geochem(3-Beam)

Daily ID:60

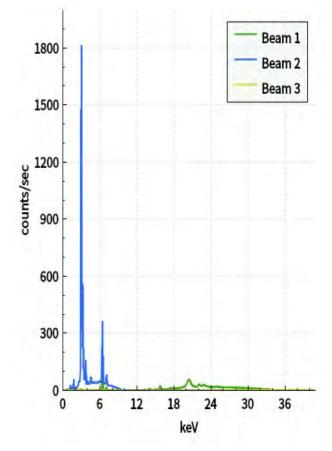
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	66	24
El	PPM	+/- 3σ
Cr	ND	<220
As	ND	<18
Se	ND	<11
Ag	ND	<0.1
Cd	ND	<94
Hg	ND	<49
Pb	ND	<21

Spectrum



Notes

info: E96

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:36:50

Method : Geochem(3-Beam)

Daily ID:61

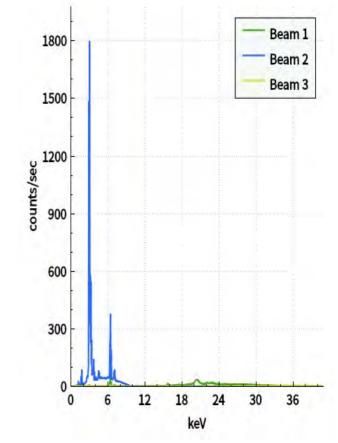
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	109	31
El	PPM	+/- 3σ
Cr	ND	<340
As	ND	<26
Se	ND	<16
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<74
Pb	ND	<33

Spectrum



Notes

info: E97

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:40:25

Method : Geochem(3-Beam)

Daily ID:62

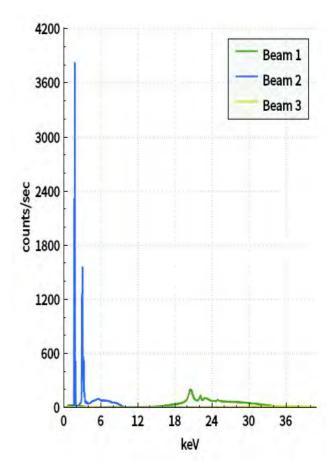
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	3	3
El	PPM	+/- 3σ
Cr	ND	<100
As	ND	<6
Ag	ND	<0.1
Cd	ND	<54
Ва	ND	<1400
Hg	ND	<20
Pb	ND	<8

Spectrum



Notes

info: Blank 20

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:47:18

Method : Geochem(3-Beam)

Daily ID:63

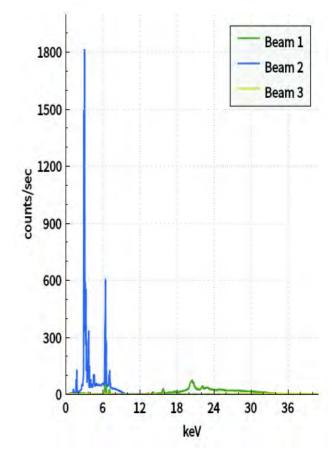
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
As	10	10
Se	7	6
Ва	83	30
Pb	14	11
El	PPM	+/- 3σ
Cr	ND	<170
Ag	ND	<0.1
Cd	ND	<81
Hg	ND	<40

Spectrum



Notes

info: E98

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:49:15

Method : Geochem(3-Beam)

Daily ID:64

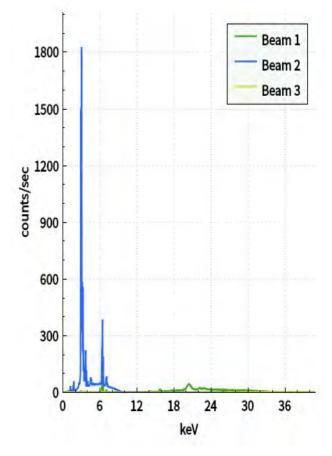
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	72	27
El	PPM	+/- 3σ
Cr	ND	<280
As	ND	<24
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<64
Pb	ND	<27

Spectrum



Notes

info: E98 Dup

Signature:

Serial Number: 841443 Time: 2021-12-06 14:51:15

Method : Geochem(3-Beam)

Daily ID:65

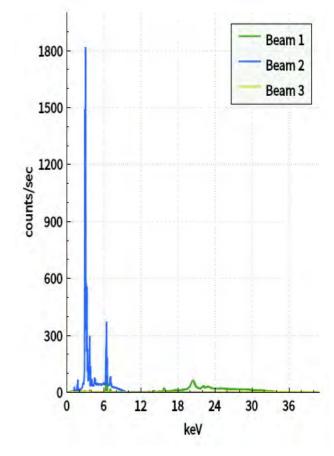
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	65	25
Pb	19	12
El	PPM	+/- 3σ
Cr	ND	<210
As	ND	<18
Se	ND	<10
Ag	ND	<0.1
Cd	ND	<90
Hg	ND	<48

Spectrum



Notes

info: E98 Dup 2

Signature:

Serial Number: 841443 Time: 2021-12-06: 14:54:33

Method : Geochem(3-Beam)

Daily ID:66

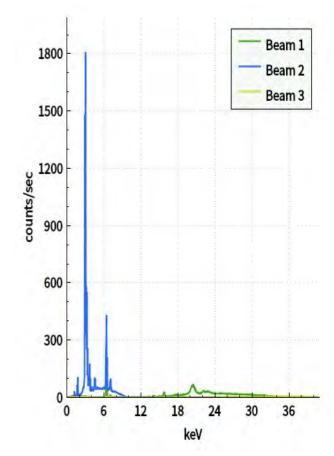
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	8	6
Ва	100	32
Pb	23	13
El	PPM	+/- 3σ
Cr	ND	<200
As	ND	<18
Ag	ND	<0.1
Cd	ND	<87
Hg	ND	<41

Spectrum



Notes

info: E99

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:03:37

Method : Geochem(3-Beam)

Daily ID: 67

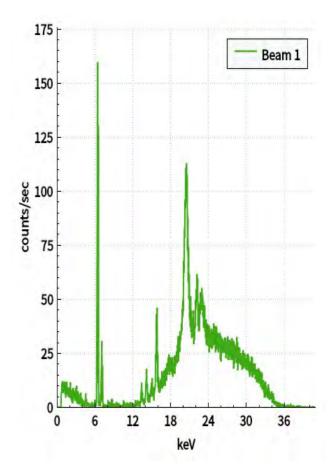
Elapsed Time : 3.33 s

Elapsed time: 3.3s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<21
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<110
Ва	ND	<6700
Hg	ND	<47
Pb	ND	<24

Spectrum



Notes

info: E100

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:04:25

Method : Geochem(3-Beam)

Daily ID:68

Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	50	21
Pb	19	14
El	PPM	+/- 3σ
Cr	ND	<250
As	ND	<20
Se	ND	<12
Ag	ND	<0.1
Cd	ND	<99
Hg	ND	<48

Spectrum

Notes

info: E100

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:09:28

Method : Geochem(3-Beam)

Daily ID:69

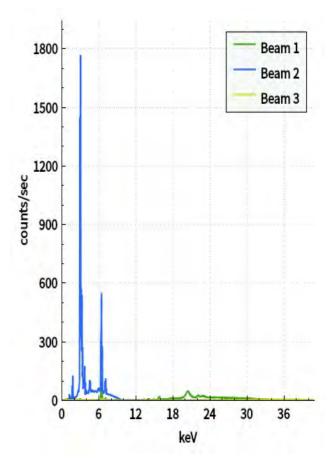
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	104	35
El	PPM	+/- 3σ
Cr	ND	<260
As	ND	<23
Se	ND	<14
Ag	ND	<0.1
Cd	ND	<110
Hg	ND	<56
Pb	ND	<26

Spectrum



Notes

info: E101

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:20:08

Method : Geochem(3-Beam)

Daily ID:70

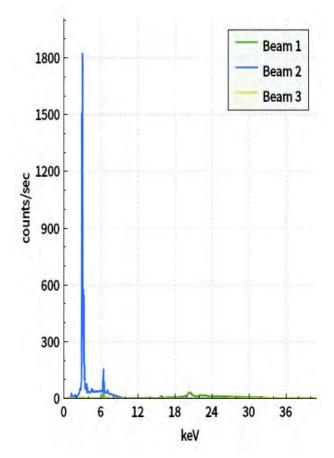
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	35	18
El	PPM	+/- 3σ
Cr	ND	<350
As	ND	<32
Se	ND	<19
Ag	ND	<0.1
Cd	ND	<140
Hg	ND	<85
Pb	ND	<39

Spectrum



Notes

info: E102

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:23:47

Method : Geochem(3-Beam)

Daily ID:71

Elapsed Time : 10 s

Elapsed time: 10.0s

Chemistry

El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<21
Se	ND	<13
Ag	ND	<0.1
Cd	ND	<100
Ва	ND	<7400
Hg	ND	<58
Pb	ND	<25

Spectrum

Notes

info: E103

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:24:17

Method : Geochem(3-Beam)

Daily ID:72

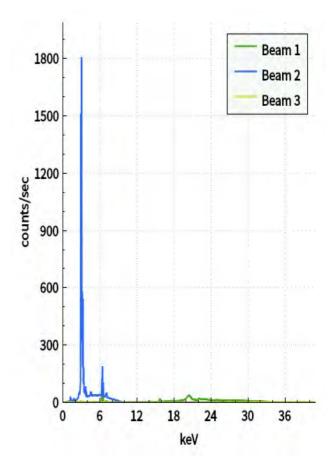
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	39	17
El	PPM	+/- 3σ
Cr	ND	<330
As	ND	<26
Se	ND	<17
Ag	ND	<0.1
Cd	ND	<130
Hg	ND	<77
Pb	ND	<33

Spectrum



Notes

info: E103

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:32:38

Method : Geochem(3-Beam)

Daily ID:73

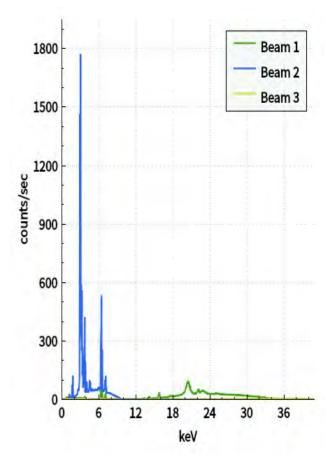
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Ва	86	30
Pb	24	10
El	PPM	+/- 3σ
Cr	ND	<160
As	ND	<15
Se	ND	<8
Ag	ND	<0.1
Cd	ND	<72
Hg	ND	<32

Spectrum



Notes

info: E104

Signature:

Serial Number: 841443 Time: 2021-12-06: 15:36:51

Method : Geochem(3-Beam)

Daily ID:74

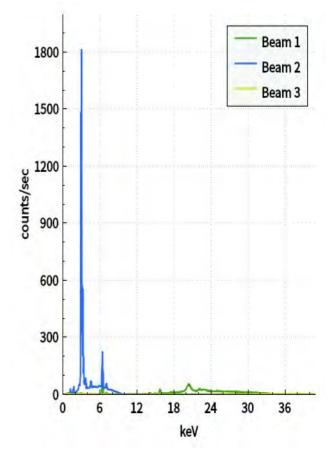
Elapsed Time : 50 s

Elapsed time: 50.0s

Chemistry

El	PPM	+/- 3σ
Se	9	7
Ва	44	20
Pb	14	13
El	PPM	+/- 3σ
Cr	ND	<240
As	ND	<20
Ag	ND	<0.1
Cd	ND	<100
Hg	ND	<48

Spectrum



Notes

info: E105

Signature: